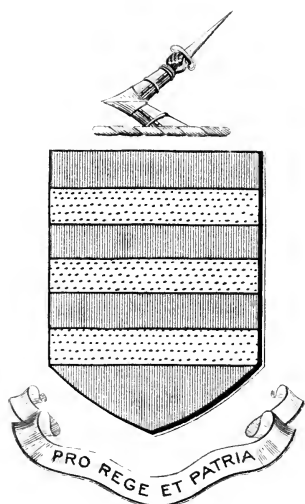
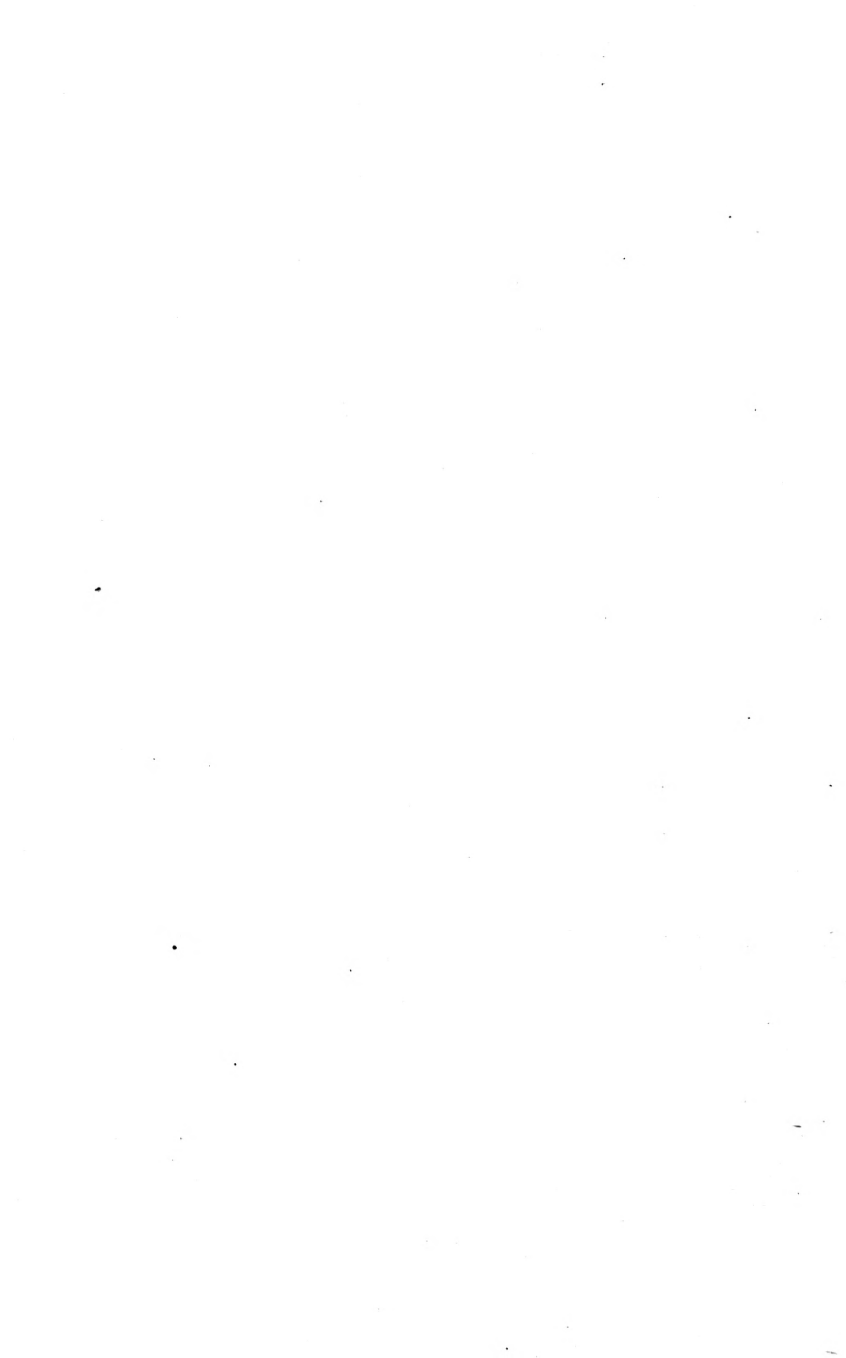


THE
YEAR-BOOK OF
TREATMENT
FOR 1886



Bequeathed to the Library of the
University of Toronto by
Irving Howard Cameron, Esq., M.B.
Sometime Professor of Surgery
in the Faculty of Medicine

St. Camra



THE
YEAR-BOOK OF TREATMENT
FOR 1886.

THE
YEAR-BOOK OF
TREATMENT

FOR

1886.

*A CRITICAL REVIEW FOR PRACTITIONERS OF
MEDICINE AND SURGERY.*

Contributors.

J. MITCHELL BRUCE, M.D.
THOMAS BRYANT, F.R.C.S.
F. H. CHAMPNEYS, M.B.
ALFRED COOPER, F.R.C.S.
SIDNEY COUPLAND, M.D.
SIR DYCE DUCKWORTH, M.D.
GEORGE P. FIELD, M.R.C.S.
JAMES FREDERICK GOODHART, M.D.
REGINALD HARRISON, F.R.C.S.
D. BERRY HART, M.D.
ROBERT MAGUIRE, M.D.

PETER McBRIDE, M.D.
MALCOLM MORRIS, F.R.C.S. ED.
EDMUND OWEN, F.R.C.S.
SIDNEY P. PHILLIPS, M.D.
R. DOUGLAS POWELL, M.D.
HENRY POWER, M.B., F.R.C.S.
C. H. RALFE, M.D.
JAMES ROSS, M.D.
WALTER G. SMITH, M.D.
FREDERICK TREVES, F.R.C.S.
W. J. WALSHAM, F.R.C.S.



PHILADELPHIA:

LEA BROTHERS & Co.,

1887

297181
28- 2- 34

PREFACE.

THE object of this book is to present to the Practitioner not only a complete account of all the more important advances made in the Treatment of Disease, but to furnish also a Review of the same by competent authorities.

Each department of practice has been fully and concisely treated, and care has been taken to include such recent pathological and clinical work as bears directly upon Treatment.

The medical literature of all countries has been placed under contribution, and the work deals with all the more important matters relating to Treatment that have been published during the year ending September 30th, 1886.

A full reference has been given to every article noticed.



CONTENTS.

	PAGE
Diseases of the Heart and Circulation. By J. MITCHELL BRUCE, M.D., F.R.C.P.	1
Diseases of the Lungs and Organs of Respiration. By R. DOUGLAS POWELL, M.D., F.R.C.P.	19
Diseases of the Nervous System. By JAMES ROSS, M.D., F.R.C.P. . . .	35
Diseases of the Stomach, Intestines, Liver, etc. By SIR DYCE DUCKWORTH, M.D., F.R.C.P., AND ROBERT MAGUIRE, M.D., M.R.C.P.	46
Diseases of the Kidney, Diabetes, etc. By CHARLES HENRY RALFE, M.D. CANTAB., F.R.C.P.	58
Rheumatism and Gout. By ROBERT MAGUIRE, M.D., M.R.C.P.	70
Anæmia and Allied Conditions. By SYDNEY COUPLAND, M.D., F.R.C.P. . .	80
Medical Diseases of Children. By JAMES F. GOODHART, M.D., F.R.C.P. . .	93
Continued Fevers. By SYDNEY PHILLIPS, M.D., M.R.C.P.	102
General Surgery.—Part I. By THOMAS BRYANT, F.R.C.S.	113
“ “ Part II. By FREDERICK TREVES, F.R.C.S.	121
Orthopædic Surgery. By W. J. WALSHAM, F.R.C.S. ENG.	147
Surgical Diseases of Children. By EDMUND OWEN, F.R.C.S.	155
Diseases of the Genito-Urinary System. By REGINALD HARRISON, F.R.C.S.	167

	PAGE
Venereal Diseases. By ALFRED COOPER, F.R.C.S.	177
The Diseases of Women. By D. BERRY HART, M.D., F.R.C.P. EDIN.	187
Midwifery. By FRANCIS H. CHAMPNEYS, M.B., F.R.C.P.	217
Diseases of the Skin. By MALCOLM MORRIS, F.R.C.S. EDIN.	239
Diseases of the Eye. By HENRY POWER, M.B., F.R.C.S.	251
Diseases of the Ear. By GEORGE P. FIELD, M.R.C.S.	267
Diseases of the Nose and Throat. By P. McBRIDE, M.D., F.R.C.P. EDIN., F.R.S. EDIN.	274
Summary of the Therapeutics of the Year 1885-86. By WALTER G. SMITH, M.D. UNIV. DUBLIN	285
Index to Authors Quoted	295
Index to Subjects	299

THE
YEAR-BOOK OF TREATMENT
FOR 1886.

DISEASES OF THE HEART AND
CIRCULATION.

BY J. MITCHELL BRUCE, M.D., F.R.C.P.,

*Physician to Charing Cross Hospital, and Assistant-Physician to the Hospital for
Consumption, Brompton.*

1. Treatment of endocarditis.

Dr. Sansom (*Lettsomian Lectures*, 2nd edition, 1886, p. 48) recommends the administration of quinine in acute rheumatism when salicylates have been withheld, and when there is evidence of continuing endocarditis, possibly severe, after the subsidence of the pains and the pyrexia. It is better, in his opinion, to give one dose of ten grains daily than to administer repeated doses; and after administration for four or five days it should be withheld for a day, for it must not be forgotten that quinine has some depressing influence upon the circulation. In cases manifesting very low arterial tension and signs of a feeble heart, digitalis may not be employed whilst endocarditis is still in progress. He has found that its administration is attended with no advantage, and even with danger.

2. Notes on severe endocarditis, with special reference to cause and treatment.

Dr. Sansom (*Practitioner*, 1886, xxxvii., p. 105) describes three cases of severe ("ulcerative") endocarditis, and discusses the question of treatment. He says that two lessons are taught us: the one, that the means which protect a recently-delivered woman from all septic influences should more and more be urged upon all on whom her treatment devolves; the other, that to a woman the subject of old-standing valvular disease of the heart, the period subsequent to childbirth is one of peculiar peril and

anxiety, which demands more than usual caution ; and, furthermore, that the subjects of valvular disease should be removed as far as possible from every source of septic contamination.

He contends also that there is a hopeful therapeutic outlook. In one of the cases, after trying a variety of remedies without benefit, he ordered the sulpho-carbolate of sodium in thirty-grain doses three times in the day. Carbolised oil, in the proportion of one part of pure carbolic acid in four parts of olive oil, was also rubbed into the chest and the back twice a day. At the end of a week the general conditions began to improve—the patient slept well, and had a good appetite ; and after twenty-three days of this treatment the temperature was normal, and patient asserted that she felt better. Ultimately the weight increased from 8 st. 9 lb. to 9 st. 11 lb., and the patient was discharged cured.

Dr. Sansom urges that adequate amounts of an antiseptic agent *can* be administered to a living animal to destroy, or to prevent the development of, micrococci, which are the agents disposing to putrefactive change. Before introducing the sulpho-carbolate of sodium as a definite chemical compound and as a therapeutic agent in 1869, he found that the salt could be administered to animals in large doses without any inconvenience or hurtful results, two guinea-pigs readily consuming 275 grains of sulpho-carbolate of sodium in four days.

3. Treatment of mitral stenosis.

Dr. Broadbent (*International Journ. of the Med. Sci.*, 1886, vol. xci., pp. 57—86) in an elaborate paper very fully discusses this form of valvular disease in all its relations, and concludes with a statement of his views on treatment. In cases where obstruction in the pulmonary circulation has led to distension of the right ventricle and right auricle, and the walls of these cavities threaten to become paralysed by overstretching of their muscular fibres, the first and most important indication for treatment is to relieve the right ventricle. There are three ways of effecting this end : by venesection, by cupping or leeching, and by purging. Bleeding from the arm or jugular is the most prompt and effectual way ; and, in Dr. Broadbent's opinion, it is certain to come again into more general use as the profession becomes familiar with the remarkable results which may be witnessed in cases apparently hopeless. Pulselessness, cold extremities, and the cold sweat of impending dissolution, are not contra-indications as long as there is power in the labouring right ventricle. Whilst blood is abstracted, brandy and other stimulants may be administered ; in desperate cases, ether or brandy, or both, may be injected under the skin. It is in private practice that the best opportunities for

successful bleeding are met with. If milder measures be judged to be sufficient, leeches may be employed, or cupping with or without the abstraction of blood. A very suitable situation for the application of leeches or the cupping-glasses is over the enlarged liver, by which means the pain and sense of fulness and oppression are relieved. With respect to purgatives, Dr. Broadbent holds that a mild aperient is of no use; the purgation must be decided. A mercurial pill or powder should be chosen, as likely to have a greater effect in reducing the liver and relieving the right heart than more powerful purgatives of another kind.

The administration of digitalis or similar drugs had better be postponed till the stress on the right cavities of the heart has been relieved by the bleeding or the purging. Digitalis may then be given—at first with ammonia, ether, and belladonna; afterwards with nux vomica or strychnine; or, again, with tincture of iron. Convallaria or caffeine may be substituted for digitalis when the latter appears to disagree with the patient or fails in its effects. Caffeine, however, in Dr. Broadbent's hands, has been of much greater value taken at the same time with digitalis than in place of it, a profuse flow of urine withheld up to that time coming on when the caffeine has been added. Other diuretics—squills, scopolarium, juniper, and the salts of potash—find their place as accessories or as alternatives, when digitalis and caffeine, or convallaria, may have been taken so long that they begin to lose their effect. Whilst in mitral incompetence digitalis may be given almost indefinitely, and patients often take it for years with obvious advantage, such is not the case in mitral stenosis. Here the effects must be watched from day to day. At any time the action of the heart may all at once become disordered; there is a sense of oppression and distress in the region of the heart; sometimes there is nausea, and frequently the liver will be found to be swelling again. The digitalis should be at once suspended; afterwards a repetition of the mercurial aperient may enable the heart to bear it again, or its place may be taken by some of the other remedies enumerated.

4. Convallaria in mitral disease.

Dr. Sansom (*op. cit.*, pp. 100 and 147) arrives at the general conclusion that in convallaria we have a drug which may be occasionally used with advantage in cases of mitral *regurgitation*; that it should be continued for no longer than weekly periods without interruption; that in cases manifesting dropsy it should be accompanied with caffeine; but that for general and systematic administration in mitral *regurgitation* it will not (except at intervals) usefully supplant digitalis.

In mitral *stenosis*, on the other hand, convallaria is of considerable therapeutic importance.

5. Caffeine in mitral disease.

Dr. Sansom (*op. cit.*, pp. 89 and 95) believes he is justified in concluding from his careful clinical observations that caffeine in the treatment of cases of mitral *regurgitation*, in which failure of compensation has occurred, is a valuable agent; that it is a powerful diuretic, and is, therefore, very valuable in cases manifesting dropsy; that it tends to increase the force of the heart, to calm the respiration, and reduce the temperature; but that it fails in some cases to be of benefit, even though it may manifest its diuretic effect.

In mitral *stenosis* it is inferior to convallaria. Like other heart-tonics, caffeine fails especially in pericarditis, where probably the direct enfeebling agency of the disease upon the myocardium is a cause which operates against it. He employs the official citrate of caffeine in three-grain to five-grain doses, dissolved in the ordinary saline mixture—diluted liquor ammoniæ acetatis. The dose is generally administered three times in the day, but in some cases once only. Instead of the citrate, the pure caffeine may be employed, dissolved in solutions of benzoate or salicylate of sodium. (*See "Year-Book" for 1884, p. 3.*) In these it dissolves freely, and thus a concentrated solution may be made for hypodermic injection. The following is a good formula for internal administration: pure caffeine and benzoate of sodium, of each one drachm; distilled water, six fluid ounces. Half an ounce contains five grains of caffeine.

6. On the use of salicylate of caffeine and sodium.

Nine cases are recorded by Székács (*Pester med.-chir. Presse*, Sept. 27, 1885; and *Med. Chron.*, iii., p. 128), in which salicylate of caffeine and sodium was employed with various effects. This compound contains 62.5 per cent. of pure caffeine. The dose given never much exceeded 3 grains, nor the daily amount 18½ grains. In the first four cases suffering from heart-disease, with the consequent train of symptoms, the effect was rapid and remarkable, the daily quantity of urine increasing in one case to eight times its previous amount, in all of the cases very considerably, with relief of the dropsical symptoms.

In the fifth case, one of heart-disease, the effect was not so well marked, but greater than that of digitalis. In the sixth case, Bright's disease, and in the seventh, in which there was considerable exudation into the right pleura but no heart-disease or weakness, diuresis was not marked. In the eighth, suffering from mitral and tricuspid insufficiency, excitability, jactitation, &c.,

followed the use of the drug, and it had to be abandoned, but digitalis produced the same effect. In the ninth case, emphysema, the amount of urine at once increased from 500 c.cm. to 2,600 c.cm., and the œdema disappeared. The amount of urine passed sinks with equal rapidity when caffeine is discontinued, and it is therefore chiefly useful in emergencies, and only in those cases where anuria depends on heart-disease.

7. Sparteine.

Until very recently, investigations into the properties of the two principles, scoparine and sparteine, contained in the broom, have thrown but little light on the therapeutic power of the drug itself.

M. Germain Sée, in a paper in the *Gazette Hebdomadaire*, Nov. 27, 1885, gives the results of his researches on the action of sparteine. (*Med. Chron.*, 1886, iv., p. 55.) So far as regards its effects on the circulatory system, these are:—(1) Its most salient action is to raise the power of both heart and pulse; in this respect, however, it acts in a most pronounced manner—more promptly and more constantly than either digitalis or convallamarin. (2) It regulates a disturbed cardiac rhythm immediately, and incomparably better than any other known drug. (3) It accelerates the beats of the heart in grave atonic conditions of both the heart and the general organism, and approaches in this respect belladonna. All of these phenomena appear at the end of one or of several hours, and persist three or four days after the medicine has been discontinued. The therapeutic indication for the drug would, therefore, seem to be in any form of myocardiac weakness, whatever its cause.

Laborde and Legris agree almost altogether with these statements. (*Med. Chron.*, 1886, iv., p. 505.) They only find the pulse increased in frequency when it is unduly slow, but they at times noted slowing when the heart's action was unduly quick. They find, moreover, that the effects of sparteine usually appear in half-an-hour. Seven cases of cardiac disease are recorded in which sparteine was taken with advantage, and tracings are given to illustrate its influence. In five of the cases no valvular lesion was diagnosed, but either indications of asystolism or hypertrophy with palpitation. In two, mitral stenosis was present. In all, the heart's action markedly improved under sparteine, in doses of $1\frac{1}{2}$ to $2\frac{1}{4}$ grains. They recommend that the drug should be given, in doses of $1\frac{1}{2}$ to $3\frac{3}{4}$ grains daily:—

1. In cases where the heart is weak from tissue alteration, or unable to overcome obstacles in the circulation.

2. Where the pulse is irregular, intermittent, or arrhythmic.

Sparteine has the advantage of acting quicker than digitalis, and it is not cumulative.

As a diuretic they recommend sparteine to be given in an infusion of the flowers of the broom. In cardiac dyspnoea, sulphate of sparteine may be combined with iodide of potassium, and associated with inhalations of pyridine. (See "Year-Book" for 1885, p. 17.)

8. Treatment of myocarditis.

Dr. Samuel West (*Lancet*, 1886, i., p. 241) mentions (*inter alia*) a case of myocarditis with a history of rheumatism, and a persistent systolic apex murmur, which was under observation for about two months and a half, and left the hospital fairly well. The treatment consisted at first of a combination of tincture of digitalis, \mathfrak{m} x, and bromide of potassium, gr. x, *4tis horis*, with light food and some brandy. Liqueur strychniæ \mathfrak{m} xv, with ether and ammonia, and perchloride of iron with strychnine, were subsequently given.

Dr. Graham Steel (*Lancet*, 1886, ii., p. 293) records a case under his care in the Manchester Royal Infirmary, of non-rheumatic cardiac dilatation, apparently depending on failure of the myocardium, and attended with anasarca and bronchitis. The condition was successfully treated with tincture of squill, aromatic spirit of ammonia, infusion of digitalis, and infusion of senega, much relief being afforded and the dropsy finally disappearing.

9. The treatment of angina pectoris.

In a leading article in the *Therapeutic Gazette* (Dec. 15, 1885, p. 820), the editors draw special attention to Huchard's method of treating angina pectoris with the iodides. (See "Year-Book of Treatment" for 1885, p. 37.) Having found that angina commonly depends on disease of the coronary arteries, he directed his treatment to the circulatory system, and ordered iodide of potassium, or, better, of sodium, without intermission for months in daily doses of 15 to 30 grains.

His routine formula is :—

R Sodii Iodidi gr. 150
Aque Destillatæ \mathfrak{z} 50
M. et solve.

Signa : Two to four teaspoonfuls daily in a cup of tea.

In a subsequent communication M. Huchard (*Journ. de Méd. de Paris*, May 23, 1886) warmly advocates the use of this remedy in the treatment of angina pectoris, and claims by its means to have effected a cure in twenty-five cases. He recommends extreme perseverance in its use, and advises that it should be

continued in a daily dose of from 15 to 45 grains, for at least eighteen months after all symptoms of angina have entirely disappeared. He estimates that at least three years' treatment are required to effect a permanent cure. His reasons for choosing the iodide of sodium are that the potassium salts are heart-poisons, and liable to produce weakness or even paralysis of its contractions. The iodide of sodium is better borne as a rule, it is more active inasmuch as it contains more iodine, it is more harmless, and is more easily assimilated. The persistent use of this drug he regards as a really curative treatment.

[The writer can speak confidently as to the remarkable effect of full doses of iodide of potassium in some cases of angina pectoris with a syphilitic history.]

10. Cocaine in angina pectoris.

Prof. Laschevitch (*Revue de Médecine*, Aug. 10, 1886) has recently made a trial of cocaine in cases of angina pectoris with most encouraging results. He gave it to four patients, aged respectively thirty-five, sixty-three, fifty-eight, and forty years, and in each case with permanent relief. His plan is to give a dose of a third or half a grain three times a day. The good effects were not immediately produced after the first dose, but the attacks of angina were always checked within three days. The pulse became more slow under cocaine, and at the same time of better volume; the quantity of urine was also increased. He has found that under the influence of inhalations of oxygen the attacks are much diminished in severity, and the breathing rendered easier; and he recommends a combination of inhalations of oxygen with the administration of cocaine as the best means of cutting short the attacks and preventing their reappearance.

11. Urethane in the insomnia of heart-disease.

Dr. Sansom (*op. cit.*, p. 102) says that the most satisfactory agent which he has hitherto employed as a hypnotic in cardiac disease is urethane. In doses of 15 or 20 grains at bedtime it induces a calm natural sleep, lasting in a case of severe cardiac failure for at least five hours, the patient being manifestly refreshed on waking. It has produced no adverse symptoms whatever. He considers urethane a distinct gain to cardiac therapeutics.

Dr. Robert Saundby, of Birmingham (*Pract.*, 1886, i., p. 130), says he has felt, in common with most practitioners, the want of a hypnotic which may be given safely in the insomnia of cardiac disease, or of acute maladies like pneumonia, where the tendency to heart-failure is a pressing danger. The numerous instances of death after chloral have sufficiently indicated its danger.

He hoped paraldehyde might have proved of use, but in his

hands it has been a failure. He records two cases of cardiac insomnia successfully treated with two-grain doses of urethane, given at bedtime in solution in water. One of these was a case of aortic and mitral incompetence, with congestion of the lungs, hæmoptysis, pleural effusion, and œdema of the legs. The patient complained that as soon as he fell asleep he woke with a dreadful feeling of suffocation, and for three nights he had had very little rest; but the last five nights he had slept comfortably by the aid of urethane, and his condition was generally improved in consequence. The other case was one of cardiac dilatation with mitral incompetence, the heart's action being very feeble and irregular. The patient had not slept for several nights, but urethane obtained for her comfortable sleep from the day that she began to take it. Von Jaksch, of Vienna, had related two cases, one of endocarditis and mitral insufficiency, and the other of aneurysm, in which very troublesome insomnia was relieved by this drug, in doses of 7·7 grains (·5 gramme); but so far two grains have been quite sufficient for Dr. Saundby's patients.

In a paper on the use of hyoscyne as a cerebral sedative in delirium and insomnia with restlessness, Dr. Mitchell Bruce (*Pract.*, 1886, ii., p. 321) records a case of mitral disease of rheumatic origin, complicated with cirrhosis of the liver and alcoholism in a man of forty-seven. The hydriodate of hyoscyne appearing to aggravate the Cheyne-Stokes character of the breathing, the patient was treated very freely with urethane, with no decided benefit but with no bad result. As much as 200 grains of urethane was given on one occasion without obvious effect of any kind.

12. The direct electrification of the heart.

After referring to the difficulties that have hitherto been recognised, both anatomical and physiological, in the direct application of electric currents to the heart, Dr. J. Leonard Corning (*Virginia Med. Monthly*, April, 1886) describes the following method, which he recommends as free from the usual objections. He commences by brushing the posterior wall of the pharynx and adjacent parts with an eight per cent. solution of cocaine. Having rendered these parts thoroughly anæsthetic, he passes an œsophageal electrode, well insulated except for about an inch and a half at the point, down the œsophagus until the non-insulated portion lies behind the heart, that is, until it is opposite the eighth vertebra. The distance required can be previously measured, and a note made of how far the instrument must be passed. The other electrode, a flat one, is then placed on the front of the chest, so that its centre corresponds to the apex beat of the heart, and

the connection is made. In cardiac weakness, as indicated by irregular and intermittent action, he has found the faradic current so applied of great benefit, whilst in angina pectoris the constant current has given the best results. In this case the œsophageal electrode should be connected with the positive pole. Care must be taken to employ only currents of weak strength for fear of damage to the œsophagus. He thinks that this method of treatment should prove useful in cases of opium or chloroform poisoning, and in drowning; but he has not yet had an opportunity of testing its value in any of these conditions.

13. Treatment of aneurysm of the aorta.

Professor Gairdner (*Brit. Med. Journ.*, 1886, i., p. 948), at a meeting of the Glasgow Medico-Chirurgical Society, exhibited a large number of specimens of aneurysm of the aorta, and discussed the diagnosis, prognosis, and treatment of the disease. He described Valsalva's and Tuffnell's methods of treatment, the treatment with iodide of potassium, and that with cardiac depressants, such as veratrum viride, and finally the method by galvano-puncture. He was disposed to believe that great benefit was derived from iodide of potassium. He had not found Tuffnell's system successful. Galvano-puncture he had abandoned, and was not prepared to recommend its adoption in any case under his care. A discussion followed Dr. Gairdner's paper, the only point on which any of the members disagreed with the author being with respect to the value of galvano-puncture.

At the Clinical Society of London, Dr. Churton, of Leeds (*Brit. Med. Journ.*, 1886, i., p. 978), read notes of a case of aneurysm of the aorta treated by galvano-puncture. The patient, æt. 45, had been already treated five years before by galvano-puncture, on two occasions, and had taken iodide of potassium for years. Under Dr. Churton's care, as the aneurysm was growing rapidly, and a double tumour protruded through the chest wall, recourse was again had to galvano-puncture, which was employed on four occasions. Twenty minutes after the fourth operation the patient suddenly died from rupture into a bronchus. Post-mortem a triple aneurysm was found, the cavities of which were variously filled with clots, that produced by the action of the galvanic needles being like a soft, pinkish jelly, too fragile to be preserved, and blood-débris. The formation of such clot and débris in the cavity of a perfectly open aneurysm was regarded by Dr. Churton as not free from danger.

14. Aneurysm of the ascending aorta; treatment by electrolysis.

Dr. J. C. Wilson, of Philadelphia (*International Journ. of the*

Med. Sci., vol. xci., p. 162), records this case, in which he believes he obtained useful results. A woman of seventy-four, who may or may not have had syphilis, and whose troubles commenced after a violent fall and blow on the breast against a block of wood, presented a large aneurysm occupying the whole of the right sub-clavicular and much of the mammary region. The skin and the deeper tissues surrounding its base were tender to the touch. A loud double murmur was audible at the base of the heart. There was an almost complete absence of pressure-signs and symptoms. For the first twelve days, rest, restricted diet, and iodide of potassium with morphine, were ordered, but the tumour increased in size. Electrolysis was therefore performed, the needles being of steel, $2\frac{4}{5}$ inches long, straight, elliptical transversely, $\frac{1}{16}$ by $\frac{1}{25}$ inch in diameter, insulated to within $\frac{7}{25}$ inch of the point, which was very sharp, flattened, and heavily gilt. The two needles were connected with the positive pole, and introduced slowly into the tumour at points some distance from its upper and lateral borders. They penetrated $1\frac{2}{3}$ inches, the points being freely movable within. A large electrode, covered with a fine layer of thin-grained sponge, well moistened, and connected with the negative pole, was held firmly against the lower border. Five cells were first employed, and the number rapidly increased to ten, fifteen, and finally twenty cells, with a current strength of twelve milliamperes. The patient suffered much pain at the introduction of the needles, and at each increase in the number of cells. The current of twenty cells was kept up thirty-five minutes. At the end of the time there was no diminution in the force of pulsation, but the patient's sufferings were too great to prolong the operation. Two days after there was a little improvement, but rapid extension of the mass then set in, and twenty days later a second operation was performed. This time the needles were connected with the *negative* pole, twenty cells being used from the first. Pulsation speedily diminished during the application, and in forty-five minutes the movements of the needles in the sac had almost ceased. The *séance* lasted one hour. After the operation pulsation again increased, but it was never so violent as before. There was, however, some general increase in the size of the aneurysm up to the time of death, seven weeks after the second operation. Post-mortem it was found that an aneurysm about the size of the heart sprang from the right side of the ascending aorta; and that this communicated through an oval opening, much smaller in diameter than the aneurysm itself, with a second, false, aneurysm beneath the muscles and fascia of the chest wall. The intrathoracic aneurysm contained but a small quantity of

laminated clot; the external tumour was densely filled with firm laminated clot.

15. A case of thoracic aneurysm treated by the introduction of steel wire into the sac.

A case of thoracic aneurysm in which Moore's original operation, with some important modifications, was revived at the Middlesex Hospital, was submitted to the Medical and Chirurgical Society by Dr. Cayley (*Proceed. Med.-Chir. Soc. of London*, N.S., No. 12, p. 58; and *Brit. Med. Journ.*, 1886, i., p. 395), and led to an important discussion. A man of forty-eight had suffered from symptoms of thoracic aneurysm for seven months; for five days a pulsating tumour had been visible behind the right sterno-clavicular articulation. He was at first treated after Tufnell's method, and given large doses of iodide of potassium, but the tumour grew and threatened to burst. Mr. Hulke, therefore, introduced forty feet of steel wire into the sac through a fine cannula. The operation caused no constitutional disturbance or local pain; and this portion of the aneurysm became completely consolidated. Two months later, however, signs appeared of the extension of the intrathoracic portion of the aneurysm—increasing dyspnoea and severe paroxysmal cough, and there was more pulsation behind the sternum and towards the left sterno-clavicular articulation. Some three weeks later a second operation was performed. Mr. Gould introduced a cannula just above the left sterno-clavicular articulation, directing the instrument obliquely towards the middle line, and passed thirty-four feet nine inches of wire into the sac. No constitutional symptoms followed, but the symptoms were not relieved, and the patient died in a paroxysm of dyspnoea, nine days later. Post-mortem a large aneurysm was found, springing from the ascending portion of the aortic arch, and communicating with the vessel by a very large orifice. The whole of the upper portion was completely filled with clot, embedded in which was the wire. The walls of the sac, where it projected into the neck, consisted only of a little condensed connective tissue. The lower portion of the sac, near its origin from the aorta, caused compression and flattening of the trachea just above its bifurcation. The first operation had, therefore, produced the desired result in preventing the imminent rupture of the aneurysm. The size and connections of the sac had rendered the second operation ineffectual.

In the discussion which followed, Mr. Barwell recounted the nine cases in which the method had been tried, and said that he should hesitate much before he followed it. Dr. Paul described a case in which he passed fifteen feet of cleansed and bleached white

horsehair into an aneurysm bulging forwards between the ribs on the right of the sternum in a middle-aged native of India. The tumour rapidly increased in size; and death occurred in a convulsion on the fourth day. Post-mortem considerable coagulation was found in the interior of the aneurysm (which sprang from the innominate); but the lining membrane of the sac was of a pinkish-red colour, as if inflammation were setting in.

Mr. Bryant said that there might be some hope of treating aneurysm by this method when we have before us a sacculated aneurysm with a small orificial opening, and when neither ligature nor pressure is of avail. He believed there are cases where the treatment by the introduction of a foreign body should be tried. The question of material was important. He believed wire was more dangerous than horsehair, fishing-gut, or catgut, for wire being rigid was more likely to produce irritation and do harm than these, any one of which would whip the blood of its fibrine and help coagulation. Whilst protecting himself against all rashness, he believed that in aortic aneurysms, thoracic as well as abdominal, this mode of treatment might prove very valuable.

Mr. Timothy Holmes said that electricity was the alternative in these cases, and that from it he had never succeeded in getting any benefit. He believed Dr. Cayley's case would stimulate the treatment by wire, which had gone out of fashion. He thought that in future it would be prudent to begin with a smaller amount of wire, or to use a softer material, such as horsehair, &c. He preferred horsehair to catgut, because it kept its size and shape.

Mr. Hulke insisted on the value of a spiral of tempered steel wire such as he had used in this case, instead of the materials proposed by other speakers. Soft wire bends about in all directions inside the sac, and there is great possibility of its entering the main channel of the blood-current, whilst a spiral of tempered steel coils up directly inside the sac, and is localised to the neighbourhood of the puncture. If horsehair or catgut be used, neither their direction nor the distance they travel can be controlled. Of three possible methods of treatment, injection of ergotine round the sac had not encouraged further trial in his hands. Galvano-puncture had in his experience proved positively dangerous. These being rejected, the mechanical principle alone remained, to which he perceived no valid objections, whilst in proper cases he contended there were cogent reasons for its trial.

16. Aneurysm treated by a new combination.

Mr. Barwell (*Brit. Med. Journ.*, 1886, ii., p. 675) brings before

us a method of treating large aneurysms for which deligation is impracticable. It was practised by him in a man of thirty-nine, suffering from a large aneurysm of the thoracic aorta. The means employed was a combination of the introduction of wire into the sac with galvano-puncture. With the assistance of Dr. Montague Murray, who managed the battery, Mr. Barwell proceeded as follows:—The skin over the aneurysm was punctured with a bistoury, and a small hollow needle of ivory, sharpened like a subcutaneous injection needle, was introduced into the sac, and thereby about ten feet of the finest steel wire was passed into the aneurysm. This was connected with the positive pole of a bichromate battery; the negative being applied by means of a large pad of spongio-piline to the back, over the spine and left scapula. Then a current equal to nine or ten milliampères was passed for an hour and ten minutes, the man feeling no pain or inconvenience. There was no immediate change in the tumour, but at the end of twelve hours the man appeared very much better, the tumour was more solid, and the pulsation more distant. Four days, however, after the operation, a tumour appeared on the right of the sternum, which, according to the patient, had existed two years previously. The man died a week after, and the attempt, so far, was unsuccessful; but it was evident from the condition found post-mortem, that although the method failed in this particular instance, it affords the elements and great promise of success. On opening the sac it was discovered that the wide coils of the wire were surrounded by thick, firm, colourless clot, which in many places bound the wire to the walls; thus strengthening them, and rendering rupture hardly possible wherever the wire had penetrated. This mode offers, therefore, a method of dealing with large internal aneurysms which may hereafter prove valuable, and which, when opportunity occurs, Mr. Barwell is resolved to test again.

Dr. Eyton-Jones (*Lancet*, 1885, ii., p. 1188) communicated to the Chester Medical Society a case of aortic aneurysm, in which symptoms of dyspnœa were greatly relieved on one occasion by hypodermic injection of pilocarpine, but death suddenly occurred shortly after repetition of the dose on the following day.

17. The treatment of exophthalmic goître.

In a discussion on exophthalmic goître at the Ophthalmological Society last May, several of the speakers gave their experience and opinions of the value of treatment.

Mr. Jonathan Hutchinson (*Brit. Med. Journ.*, 1886, i., p. 929) said he felt great uncertainty with regard to the influence of remedies. In one patient, who was now in excellent general

health after suffering for ten years from Graves's disease, the chief good had appeared to have occurred during a sea voyage ; and the patient himself thought that during this voyage 20-grain doses of bromide of potassium, three times a day, had been of great use. Mr. Hutchinson felt assured that a considerable number of the cases he had seen had recovered. Digitalis, aconite, iron, and bromide of potassium seemed to be of use in different cases. In one middle-aged lady, tincture of aconite, long continued and pushed to \mathfrak{mxx} , three or four times a day, was said to have been followed by complete cure.

Dr. Bristowe referred to the case of a young woman with exophthalmic goitre, complicated with serious organic heart-disease in the form of aortic, mitral, and tricuspid affection. The breathing being stridulous, and a somewhat similar case having died in a severe paroxysm of dyspnoea, part of the isthmus of the thyroid was removed, and the lateral lobes were dis severed. Dwindling of the lateral lobes followed, and the stridor ceased, but no other definite improvement followed, the prominence of the eyeballs continuing, and the cardiac symptoms progressing unfavourably, so that the patient died of the heart-disease at the end of about four months.

Dr. Wilks thought exophthalmic goitre removable or curable. Belladonna was the only drug in which he felt any confidence ; he had observed the symptoms, even in severe progressive cases, so speedily reduced, that he could not doubt the value of the drug. After using it for some weeks, it was his custom, as the cases were tedious, to substitute iron, iodide of potassium, or digitalis, but he had observed no good effect attributable to these drugs.

Dr. Samuel West, who drew attention to the frequent association of the disease with rheumatism, stated that the constant application of cold seemed to have undoubted influence for good in the treatment of some cases.

Mr. Silcock related the case of a man, under the care of Dr. A. Morison, of Highbury, in whom, though the enlargement of the thyroid was cured by electrolysis, the proptosis still persisted.

18. Graves's disease cured by galvanism.

In the "Year-Book" for 1885, p. 13, a detailed account was given of Charcot's method of galvanising the cervical and cardiac regions for exophthalmic goitre.—A case, in which this method of treatment, in a somewhat modified form, was attended with the best results, is recorded by Dr. Leslie Phillips (*Brit. Med. Journ.*, Nov. 21, 1885). A pale, spare, delicate-looking lady, after nursing her betrothed, broke down in health. Six weeks after

her symptoms had declared themselves, she was found to be suffering from cephalalgia, vomiting, and constant palpitation night and day. She slept but little, always awaking with palpitation, which rendered her condition pitiable, and completely incapacitated her from all occupation. The pulse ranged habitually from 160 to 180 per minute. There was prominence of the thyroid region. She was treated alternately with purgatives, digitalis, belladonna, bromide of potassium, and iron, without any relief. Six weeks later the galvanism was begun in the subaural method, with an average dose of seven milliampères. Daily galvanic applications were made, lasting ten minutes, and improvement soon took place. Within a month it was noted that there was no palpitation on awakening, and very little during day, the pulse falling to 90. The treatment was continued every two or three days for three weeks more, when the patient removed from the town. She has since married. The applications were continued after the patient considered herself well. No medicine was given.

19. Systematic exercise and massage in heart-disease.

Oertel's principles of treatment, which were by no means new to English practitioners, as we noticed at the time, continue to be carried out in Germany in the thoroughly continental fashion of "courses" of treatment at different hilly stations, especially Meran in the Tyrol. Where a change like this is impracticable, Dr. Schott, of Frankfort (*Pract.*, xxxvi., p. 375), tries to secure the same end by carefully conducted gymnastics.

The great danger of gradual stasis of the circulation involved in dilatation of the heart is overcome by exercises which include all the muscles of the body, care being taken to avoid dyspnœa and over-exertion. The lowered frequency of the pulse and respiration, and the increased arterial tension, may be observed *during the exercises*, while the dilatation of the heart is shown to be lessened by the altered percussion area. These effects, at first transitory, by-and-by become permanent; and they may be used as a means of differential diagnosis. From the facility with which dilatation of the heart and the other conditions can be influenced by the separate exercises, prognostic indications are obtained.

Dr. Sansom (*op. cit.*, p. 108) is in favour of Oertel's plan, which was exhaustively analysed in the "Year-Book" for 1884, p. 11, but he insists on certain restrictions. There must be a selection of cases. In uncomplicated instances of failure of compensation in mitral regurgitation, in the gouty, in obese subjects, in those in

whom fatty changes are probable, and in anæmic subjects, the plan is good, whilst the policy of rest is hurtful; but it is not easy always to determine whether the cases are or are not complicated. If a slow endocarditis be in progress, the method is unscientific and unsafe. In all cases, therefore, it should be put in force with caution, and with careful estimation of the cardiac conditions and the effect of exercise upon them.

His experience is distinctly in favour of *massage* as an adjunct to the treatment of cardiac disease when compensation begins to fail.

Dr. Blanc, of Aix-les-Bains (*"Des Affections Cardiaques d'origine rhumatismale traitées aux Eaux d'Aix-les-Bains," Savoie, 1886*), produces evidence which shows that the objections to this system at foreign baths must be reconsidered, and that good results may attend a perseverance with the treatment. The system adopted at Aix-les-Bains provides that the hot water, which is projected by means of the *douche* upon the patient, can be regulated, and must always be of uniform pressure and temperature. By a special arrangement, the water that is distributed over the chest and upper extremities comes with less force than that which is directed on the lower limbs—the distribution is effected in an agreeable manner and absolutely without shock. Moreover, skilled *massage* is practised at the moment that the water is projected upon the surface. By a merely mechanical process, therefore, the peripheral circulation is quickened, the suppleness of the joints and of the muscles is increased, and the excretions are promoted; in fact, an artificial exercise is induced, to replace the exercise of normal movement from which the victim of heart-disease or rheumatism, or of both combined, is debarred. The temperature of the water employed is about 90° Fahr. The usual duration of a *douche* is ten to fifteen minutes, but this may be reduced to eight or five minutes in special cases; it is generally given daily for three days, then there is one day's interval. The first effect of the *douche* is a slight quickening of the pulse, but when the patient reposes after the bath this acceleration passes off, and frequently the rate becomes slower by five or six pulsations. Amelioration of the heart symptoms is not at once attained. In articular rheumatism the suffering under the treatment at Aix-les-Bains is at first aggravated, and a like result seems to attend as regards the cardiac phenomena. There is an increase in the pronounciation of the cardiac murmurs already existing: whilst murmurs due to vascular and hæmic causes disappear, organic *bruits* are at first intensified. As treatment progresses, however, and generally after a week, there is sensible improvement, and the engorgement

of viscera, the consequence of the cardiac lesion, diminishes and disappears. Not only may compensation be restored, but the endocardial inflammation with its plastic exudation may disappear and leave no trace. Of fifty-two cases of mitral regurgitation, Dr. Blanc records fifteen in which all signs of the condition of the disease passed away under the treatment, whilst twenty-one manifested improvement, and sixteen were stationary.

On the subject of the treatment of mitral stenosis Dr. Broadbent (*International Journ. of the Med. Sci.*, N.S., vol. xci., p. 82) gives the following opinion respecting systematic exercise as a therapeutic measure :—In the matter of exercise there should be no violent exertion, and fatigue should not be carried to the point of exhaustion. Any effort that causes pain in the chest or marked dyspnoea must be looked upon as harmful, and must be avoided. Short of the above, the more the patient can be out of doors, and the more exercise he can take, the better. It will often be found that by beginning gently he will easily attain a rate of walking which, if attempted in the first instance, would have brought him to a standstill; or he may mount an incline without distress, which at his ordinary pace would have been impossible. He may even be permitted to bathe and swim, if experience shows that he bears it well. It is not prudent to send patients suffering from this or any other form of heart-disease to mountain resorts. The effects of the diminished atmospheric pressure cannot be foreseen in individual cases; it is apt to set up palpitation; and should unfavourable symptoms supervene, removal—which is imperative—may be difficult and dangerous.

Dr. Clifford Allbutt (*Brit. Med. Journ.*, 1886, i., p. 699) read a paper on the mountain cure in heart-disease, before the Leeds and West Riding Medico-Chirurgical Society. After referring to Oertel's paper, he detailed three cases, all occurring in medical men whom he had recommended to try the plan of graduated exercise, known in Germany as the "mountain cure." The patient, under careful supervision, was urged to walk certain paths of gradual ascent. The distress felt at first became less as perspiration ensued, and "the second wind" was obtained. The sweating was then very profuse, and the inspirations became deeper. The first case referred to was suffering from mitral regurgitation, with œdema of the legs and some fluid in the pleuræ. He recovered sufficiently to be able to resume his professional work in comfort. The second patient suffered from orthopnoea, with weak systole and a systolic murmur audible at the cardiac apex, and general irregularity of the secretions. In a week after he commenced the treatment he could walk an ascent

of 400 feet, and shortly afterwards he mounted 4,000 feet without difficulty. He remained well till two years later, when he died of acute pneumonia. The third case was a fat man, aged forty-eight, with dyspnœa and signs of cardiac dilatation, who perfectly recovered. Dr. Allbutt remarked that cases must be very carefully selected, as this method would probably prove rapidly fatal to cases of aortic regurgitation or purely atrophic conditions of the heart.

DISEASES OF THE LUNGS AND ORGANS OF RESPIRATION.

By R. DOUGLAS POWELL, M.D., F.R.C.P.,

Physician to Middlesex Hospital.

1. Asthma.

Mosler (*Deutsche medicin. Wochenschrift*, 1886, No. 16) has obtained very good results by the administration of 5 per cent. solution of salicylate of cocaine hypodermically in nervous asthma. The dyspnoea was relieved, the duration of the attack shortened, and the interval between the attacks prolonged.

Sylva Nunes, of Rio de Janeiro (*Bull. de Thérapeut.*, 1886, p. 161), also Moncorvo (*idem*, p. 217), recommend tincture of lobelia in asthma, but in much larger doses than are usually given. They have given as the smallest dose 15 grammes, and as the largest 30 grammes, without in any case provoking vomiting, or other bad effects, but with great relief to the invalid.

Ringer (*Therapeutics*, 1886, p. 559) has, in the last several editions of his work, advocated the employment of lobelia in large doses for the treatment of asthma and the spasmodic dyspnoea of bronchitis; the drug being, in his experience, more useful in the bronchitic form than in the purer forms of asthma. Ringer has not, however, used the heroic doses recommended above, but, on signs of the oncoming of spasm, gives ʒj of the simple tincture every hour or half hour, or 10 minims every ten minutes or quarter of an hour, until the spasm yields. He prefers the smaller doses frequently given, as better guarding against the depression and sickness that sometimes result from the larger doses, although he has never seen alarming symptoms even from ʒij doses.

2. Iodide of potassium in asthma.

Dr. Ormerod (*Practitioner*, April, 1886, p. 241) has examined the effect of iodide of potassium on asthmatic attacks, and found that it failed to relieve in only 25 per cent. of all cases, not differentiating the cause. Five or 10 grains three times a day suited best, but the effect was rather to relieve than to cure.

Dr. Ormerod believes that the drug does not act through its influence upon the nasal mucous membrane, nor upon a possible gouty or syphilitic taint, but suggests that it is a specific for asthma, such as bromide of potassium is for epilepsy, probably acting in the same way—through the nervous system.

The efficacy of iodide of potassium in the majority of cases of asthma is beyond question, and taken in combination with $\frac{1}{6}$ to $\frac{1}{4}$ grain doses of extract of stramonium, so that 12 to 20 grains of the salt and 1 to 2 grains of stramonium are taken in divided doses between the hours of 8 a.m. and 10 p.m., suffices in most cases to control the spasm. Dr. Ormerod's experience of frequent relapse on desisting from the drug is certainly that of most other observers; but chiefly holds in cases of long duration, in which the intervals between the attacks have become gradually shortened, whilst the attacks themselves are of lessened severity. Such are cases in which secondary changes in the lungs have been produced, changes possibly in the nervous system also, for these are closely analogous to corresponding cases of epilepsy of old standing. Powell (*Diseases of Lungs, &c.*, 1886, p. 261) points out that the iodide is especially indicated in those cases in which there is a nightly paroxysm, but in which there is a perceptible dyspnoea and wheezing throughout the day. For diminishing the tendency to recurrence, *arsenic* is our most powerful drug; but *change* to a suitable locality and careful regulation of *diet* are the only certain measures.

3. Inhalations of pyridine in asthma.

G. Sée (*Bull. Gén. de Thérapeutique*, Oct., 1885) shows that most of the empyric remedies for asthma contain pyridine, which, as stated in the "Year-Book" for 1885, he recommends only when the iodides cannot be taken. It is best administered by placing about a drachm in a dish, and this in the centre of the room, the patient sitting in one corner of the room. Such inhalation of pyridine vapour should last for twenty to thirty minutes, and be repeated three times a day. Professor Sée considers from his further experience that pyridine is no mere palliative, but has an undoubtedly curative effect on the disease.

Lublinski (*Centralbl. f. die ges. Therap.*, 1885, Heft xii.) has submitted the pyridine treatment to a searching clinical inquiry. He has employed the method of administration described by Professor Sée, and found that nearly all patients were relieved at the commencement of the inhalation, while Lublinski himself observed that the respirations diminished in frequency and the loud rhonchi ceased. The pulse was sometimes slowed, but not altered in rhythm or character. An incontrollable drowsiness,

described also by Professor Sée, was observed in nearly all the patients towards the end of a *séance*.

Occasionally alarming symptoms appeared. In one case trembling of the limbs and nausea; in another vomiting with dizziness and headache were seen, but were only temporary. These symptoms seem most prone to develop in weakly subjects with a weak heart and emphysema, or with valvular lesions of the heart. Two patients with neurotic asthma were cured, ten patients showed marked improvement, five were relieved, and four were not benefited at all. Lublinski, therefore, considers that pyridine is not a true specific, that it is best prescribed in neurotic asthma, when potassium-iodide, nitro-glycerine, and amyl-nitrite are contra-indicated, and that in other forms of asthma it is merely palliative and should be used with care. (*New York Med. Journ.*, 1886, p. 451.)

Neff (*New York Med. Journ.*, 1886, p. 299) has also used the drug in a similar manner. He finds that in healthy persons its inhalation quickens the pulse and respiration, but in asthmatics a slowing action is always observed. He has used the treatment in twelve cases, and considers that it is not a curative, but only a palliative agent which must be used with care.

4. The treatment of paroxysmal coughs.

Dr. Vincent Harris (*Practitioner*, July, 1886, p. 109) discusses the nature of cough, and enumerates thus the affections in which paroxysmal cough is found:—1. Special cases of chronic bronchial catarrh; 2. Acute catarrh, especially of the bronchi; 3. Pressure upon the trachea, bronchi, or lung; 4. Whooping-cough; 5. Pressure upon the recurrent laryngeal nerve, or the trunk of the vagus.

In chronic bronchial catarrh, he believes that iodide of potassium gives the greatest relief, while in the cases of acute catarrh, he has found tincture of belladonna and potassii bromidum efficacious, in the proportion of 10 minims of the former to 5 or 10 grains of the latter, either with or without expectorant remedies, such as squills or ipecacuanha. Occasionally too, Dr. Harris adds a little iodide of potassium. A similar treatment he finds to be of service in whooping-cough, combined with counter-irritation.

When cough occurs in heart-disease, gelsemium in 10 minim doses is of service. In cases of pressure upon the trachea, &c., or upon the recurrent laryngeal nerve, Dr. Harris considers morphia, subcutaneously, to be the proper treatment.

Local conditions, such as enlarged tonsils, or elongated uvula, which may cause cough, should be cured by local treatment.

5. Trigeminal cough.

Wille (*New York Medical Record*, March 27, 1886, quoted from the *Therapeutical Gazette*) believes that this form of cough is very frequent. It is produced by irritation of the nares, or the external ears, or, in fact, of any part supplied by the eighth trigeminal nerve. He considers it to be a sort of inverted asthma, and he finds that the neurotic asthma is always accompanied by a trigeminal cough. He divides its places of origin into nasal, pharyngeal, and auricular. There need not necessarily be any visible anatomical alteration of the parts, for the affection is purely neurotic. Sometimes mere sounding of the nasal passages, sufficient violence being used to provoke epistaxis, will suffice to cure the disorder. The best mode of treatment is galvanisation of the nasal nerves by a weak induction current, while, in slight cases, iodide of potassium internally with the nasal steam douche will effect a cure.

6. Terpene in chronic bronchitis.

Rieu (*Gaz. Méd. de Strasbourg*, and *Intern. Journal*, July, 1886, p. 220) has studied the action of terpene in chronic bronchitis, and finds that it greatly diminishes the amount of pus discharged, and has no injurious action. The mucopurulent expectoration of phthisis is, he finds, not affected by it. It is not superior to creosote, Venice turpentine, and other balsamic preparations, and is to be chiefly recommended on account of its lack of odour or taste. Fifteen to thirty grains a day may be given.

Germain Sée ("Year-Book of Treatment" for 1885, p. 28) has also recommended terpene in chronic bronchitis and the catarrhal forms of phthisis, with excessive secretion, given in the form of a pill or in alcoholic solution, dose 20 to 60 centigrammes.

Terebene is recommended by Dr. Murrell (*Brit. Med. Journal*, 1885, vol. ii., p. 1103) in the treatment of winter-cough. Five or 6 drops may be taken on sugar every four hours, and the dose gradually increased to twenty drops. Dr. Hutchinson (*Brit. Med. Journal*, 1886, vol. ii., p. 15) has also found the drug of much service in this affection.

7. Hæmoptysis.

Dr. Samuel West (*Brit. Med. Journ.*, 1886, vol. i., p. 103) discusses the treatment of profuse hæmoptysis, *i.e.*, hæmoptysis having its origin from an aneurysm or erosion of a large pulmonary vessel exposed in a cavity. He considers that the hæmostatics, such as iron, gallic acid, alum, digitalis, and ergot, are of very little use in such cases of profuse hæmoptysis, since they can only act by contracting the blood-vessels or producing coagulation. For the latter purpose we have no proof of their efficacy, while their action

in the former method is of little avail, since the vessels involved are so greatly diseased. Dr. West maintains that the rational treatment must be directed towards reducing the blood-pressure, and this should be done by the following means:—

1. Rest (a) of the body generally.
(b) of the part diseased.

This may be effected by opium.

2. Free blood-letting.
3. Dry-cupping, purgation, or diaphoretics.
4. Cardiac depressants, or nauseating emetics.
5. Carefully restricted diet, on the Tufnell principle.

Dr. Green, of Sandown, I.W. (*Brit. Med. Journ.*, 1886, vol. i., p. 492), maintains the inefficiency of ergot to relieve profuse hæmoptysis, and trusts rather to drugs which relieve vascular tension. He also recommends half-a-teaspoonful of cayenne pepper in warm water.

Spengler (*Corresp.-Blatt f. Schweizer Aerzte*, 1886) performed tracheotomy for a phthisical patient who was dying from accumulation of blood in the trachea, during an attack of hæmoptysis. The blood was sucked out of the trachea, and the immediate effect of the operation was good. On the fifth day, however, the patient died from purulent mediastinitis, which had spread from the wound.

Cases of profuse hæmoptysis, of the kind under consideration, in which blood-letting or cardiac depressants can be safely employed, are very rare, and are confined to those instances in which there is a small localised cavity of old date, and, possibly, bronchiectatic origin, with otherwise healthy lungs and plethoric habit of body. In all other circumstances, the profuse hæmorrhage from aneurysm or eroded vessel within a cavity will have already reduced the blood-pressure, and the patient to a low ebb. Perhaps one of the greatest difficulties in the situation often is, how far we may venture to rally the patient, his condition of faintness being that which favours coagulation at the point of rupture.

Dr. West's paper is of value in drawing attention to what is, in most instances, the real point in treatment, viz., to keep the circulation equable, and at low pressure, until the hæmorrhage is fairly stanchèd. *Rest* and *carefully restricted diet* are the two measures most rational and safe for adoption; in all cases they are, indeed, the cardinal points in the treatment of this as of other serious forms of hæmorrhage. In the first shock and panic of severe hæmoptysis, *opium* is often of great value, but its usefulness after this period is open to much doubt, and it certainly may do harm by causing retention of blood in cavities and bronchi. Experience

also seems to justify the employment of such astringents as ergot and turpentine in at least some of the cases, although certain theoretical objections to them may be admitted.

8. Bronchiectasis treated by paracentesis.

Dr. Williams (*Med.-Chir. Trans.*, vol. lxi., p. 317) relates the histories of three out of six cases of bronchiectasis which he has treated by paracentesis. In five of the cases the operation was performed by Mr. Godlee, who joins Dr. Williams in the paper quoted, and in the remaining case Dr. Hicks operated. In the first case described in the paper, a gentleman, aged sixty-seven, had suffered from bronchitis and emphysema, with harassing cough and profuse purulent expectoration, for some years. Various medicines and inhalations had been tried, but without avail. The patient lost flesh, and was reduced to a state of great wretchedness. Before the operation there was dulness at the back of the left lung below the seventh rib, the dulness not varying with the position of the patient, and nowhere so strongly marked as in pleuritic effusion. Vocal fremitus was absent in this area, and even as high as the top of the scapula. Crepitation was heard over the whole of the dull area, and in two spots of small area distant tubular respiration was found, while in other parts of the lung harsh breathing was heard. The left chest measured in circumference two and a quarter inches less than the right. Dr. Williams diagnosed emphysema of both lungs, partial adhesions of the left pleura from dry pleurisy, causing contraction of the side and displacement of the heart's apex, and extensive dilatation of the bronchi in the lower lobe of the left lung. Mr. Godlee introduced an aspirator cannula into one of the spots where tubular breathing was heard, and withdrew a quantity of mucus and pus. He then cut down on the part and inserted a drainage-tube four inches long, through which about an ounce of pus and membranous shreds was expelled. After the operation the patient coughed up some blood. In the further progress of the case, profuse discharge flowed from the wound, but very little pus was expectorated. Within two months, discharge ceased, and the wound healed, while in another month the patient had lost all cough and expectoration, gained flesh, and was in excellent health.

The second case was one which began eight years before observation with typhoid fever. The patient was a domestic servant, who had been obliged to leave her situation on account of the fœtor of her breath. She had two or three times suffered from hæmoptysis. The expectoration was very copious and extremely foul in smell; it contained no tubercle bacilli or lung

tissue. Here, again, there was dulness and diminished movement on the left side downwards from the lower border of the third rib in front and from the seventh rib behind. Over three small areas in this dulness there was very coarse crepitation, especially after coughing. Dr. Williams diagnosed pleuritic adhesion and fibrosis of lung with bronchiectasis. Mr. Godlee inserted a small trocar, to the depth of an inch, into each of the small areas mentioned, with no result. An aspirator cannula, at a depth of two inches, entered a cavity from which membranous shreds were withdrawn. An attempt to lay open this cavity failed from slipping of the cannula, but a further operation, in which a portion of the eighth rib was excised, disclosed a cavity at a depth of five inches. This was drained. In about six weeks the wound healed, the cough had become less troublesome, and the expectoration had fallen to two ounces daily, and was only occasionally foetid. The third case described was that of a boy with cough and expectoration of three years' standing; there were also signs of bronchiectasis in the left side. Puncture was performed in the ninth space behind and reached a cavity. This was drained, but the foetid breath and expectoration continued. A further operation was performed, and a second cavity found at a depth of four and a half inches. Copious discharge took place, and the condition of the patient was much improved.

Dr. Williams considers that the operation is rendered advisable by (1) the mode of death of such patients, which is usually from some form of pyæmia, such as septic pneumonia, diarrhoea, abscess of brain or pyæmic periostitis; (2) by the irritating effect which the foul secretion produces on the upper bronchial tubes; and (3) the comparative invulnerability of the lung tissue, even when punctured to a considerable depth. The operation should not be attempted unless the pleura is adherent, for if not, there is risk of inoculating the pleural cavity with septic material. A second accident which may happen is hæmorrhage, not merely at the time of the operation, but afterwards, from the pressure of the drainage-tube on fresh granulations. In such a case the tube must be withdrawn. Dr. Williams summarises that paracentesis is indicated in bronchiectasis under the following circumstances:—

1. When antiseptic treatment has failed to correct the fœtor, and to allay the cough.
2. When the bronchiectasis is confined to one lung, is situated in the lower lobe, and the pleura is adherent.

It is not indicated when there are multiple bronchiectasis in both lungs, surrounded by emphysema, and where the pleura is non-adherent.

Mr. Godlee, in his remarks on the cases mentioned above, says that where there were no pleuritic adhesions he in one case stitched the lung to the parietal pleura, but did not find this successful. When there is free hæmorrhage from the wound at the time of operation, it is best treated by plugging. The anæsthetic should be given slowly, so as to avoid coughing, since this may cause the bronchi to be blocked by pus, and a danger then arises of asphyxia.

9. Treatment of syphilitic stricture of the trachea.

Dr. Dreschfeld (*Med. Chronicle*, vol iii., p. 177) in discussing a case of syphilitic stricture of the trachea, points out that the treatment of this syphilis, doubtless favoured the cicatrisation of the ulcer in the trachea, and so hastened the death of the patient. He recommends that where ulceration of the trachea with stenosis is suspected, the anti-syphilitic treatment should not be too active, and he suggests that actual dilatation of the trachea should be attempted either through the glottis, or with the aid of tracheotomy.

If contractile stenosis have already set in, probably no medicinal remedy will modify the condition. But in many cases the stenosis is due to partial occlusion by syphilomata, and in such cases anti-syphilitic remedies, by producing absorption before destructive ulceration has ensued, have afforded prompt and permanent relief. The differential diagnosis of such cases can but seldom be effected, and it is, therefore, safer in all cases to act upon the constitutional indication.

10. Treatment of pneumonia by digitalis.

Buigi (*Progrès Médical*, Aug., 1885) has analysed a series of cases of *pneumonia*, treated by Pétrescu, of Bucharest, by large doses of digitalis, an equivalent to 1 ounce of tinctura digitalis. B.P. was given in each twenty-four hours, in the form of fresh infusion of the leaves. No ill-effects were noticed, although marked prolongation of the diastole of the heart was shown. On the other hand, it is claimed that the symptoms were diminished in severity, and the length and mortality of the disease were also favourably influenced.

In *moderate doses*, digitalis has proved of much value in the later period of pneumonia, about the commencement of the crisis, when there is a disposition to heart failure.

11. Treatment of pneumonia by intra-pulmonary injections.

Dr. R. Shingleton Smith (*Brit. Med. Journ.*, 1885, vol. ii., p. 817) has treated five cases with *intra pulmonary injection* of ethereal solution of iodoform, of strength 1 in 5. In cases of gangrene of

lung, pleuro-pneumonia, and chronic tubercular pleurisy respectively, marked improvement was observed, while in two other cases no result was noted.

Gougenheim (*Lond. Med. Rec.*, 1886, p. 111) has made use of perchloride of mercury solutions as intra-parenchymatous injections into the lung in pulmonary tuberculosis. The injection is made on the left side below the clavicle in the first intercostal space, and on the right side through the first two intercostal spaces; and on each side care should be taken not to injure the intercostal or mammary vessels. The injection should be given slowly, to avoid producing hæmoptysis. Gougenheim has not found any permanent ill to result from these injections, and in twenty-one instances improvement was rapid. The solutions injected were of the strength 1 in 2,000, 1 in 1,000, and 1 in 100, and the fluid was always heated to a temperature of 98·6° F.

Riva (*Lond. Med. Rec.*, 1886, p. 206) also has successfully used intra-parenchymatous injections of perchloride of mercury, 1 in 2,000, carbolic acid, and creosote.

White (*New York Med. Record*, May 22, 1886; and *Practit.*, August, 1886, p. 130) reports eleven cases of phthisis satisfactorily treated by intra-pulmonary injections of carbolised iodine. He injects the following solution, in from 15 to 30 minim doses, into a cavity:—

Atropine	...	...	...	...	½ gr.
Morph. sulph.	...	...	...	...	2 gr.
Tinct. iod.	...	...	...	...	3ij
Acid. carbol. pur.	...	...	...	...	℥xx
Glycerini	...	...	...	...	3j fs.
Alcohol (dil. 20 to 30 per cent.)	...	...	...	...	3j fs.

Iodine injections. (See “Year-Book” for 1885, p. 27.)

Until full reports of cases, with results, have been brought before some of the societies for discussion, no opinion, upon which practice can be safely recommended, can be formed.

12. Antipyretics in phthisis.

Hoedmaker, of Davos Platz (*Brit. Med. Journal*, 1886, vol. i., p. 468), concludes that phthisical patients with fever and without antipyrine are more comfortable than those without fever and taking the drug. He finds the combination of salicylic acid and arsenious acid of great benefit, and he allows 60 grains of salicylate of soda, and $\frac{1}{16}$ of a grain of arsenious acid per day, in the form of pills.

The usefulness of antipyrine in the pyrexia of phthisis has certainly become more doubtful with increasing experience, although in the treatment of other pyrexial conditions, as of

typhoid, it continues to be found of great service. In cases where there is a maintained high temperature precedent to the softening period of the disease, antipyrine may sometimes be used with advantage. In the hectic fever which marks the eliminative period of phthisis, it is only useful when the area of softening is of very limited extent, and even in these cases Dr. Hoedmaker's observations for the most part hold good. *Thalline*, a newer drug of the same class, has the advantage of the dose being small, viz., 1—2 grains. When thus given in water, or in pill, every hour or two hours for three or four hours, corresponding with the diurnal rise of temperature, this drug appears more efficacious than antipyrine. Salicylate of soda is undoubtedly of service in many cases, and its combination with arsenic in somewhat larger daily doses than suggested by Dr. Hoedmaker, is most likely to be beneficial in those cases in which a more or less distinct daily chilliness is complained of. (Powell, *Diseases of Lungs*, &c., 1886, p. 455.)

13. Antiseptic inhalations.

Dr. Coghill (*Birm. Med. Review*, vol. xix., p. 158) relates his wide experience in the use of antiseptic inhalations in lung diseases. As early as 1877 he experimented with this method of treatment. He considers that antiseptics, used in this way, produce good effects by their immediate action upon the tubercle bacillus. He has investigated the volatility of various antiseptics under different circumstances, and finds that a sufficient quantity of antiseptic material is capable of being drawn into the lungs, through the medium of the air breathed, to exert a therapeutic influence on morbid states of the lungs. He considers this abundantly corroborated by clinical observation. As regards the instrument to be used, Dr. Coghill insists that it should be light, simple, and easy of use, and especially recommends Dr. Burney Yeo's inhaler. As regards the method of inhaling, he considers that it should be continuous, that the breath should be drawn in as deeply as possible, and that it should be expired through the nose. Iodine should be used with care as an inhalation, in phthisis, as it is prone to induce hæmoptysis. In purulent bronchitis, bronchorrhœa, and broncho-pneumonia, it is both safe and efficacious.

Dr. Saundby (*ibid.*, p. 193) objects to the assertion that these inhalations are of use, by acting as antiseptics. He believes that they merely cure bronchial catarrh, complicating tuberculosis, and that they have no "antiseptic" effect on the tubercle bacillus.

Clinical experience confirms the usefulness of antiseptic inhalations by means of respirators in cases of active phthisis during the

period of acute softening deformation of cavities, also in more chronic cavities with profuse expectoration. In certain cases of laryngeal phthisis also, these remedies are useful. By mitigating cough, and so lessening the need for cough mixtures, much is gained by the use of respirators, and it cannot be doubted that they diminish the septic conditions present, although they probably do not materially inconvenience the bacilli.

14. "Cramming" in phthisis.

Kurloff (*Lancet*, 1886, vol. i., p. 557) has investigated the chemical changes which go on in the bodies of patients who are subjected to Debove's "cramming" system. He has estimated the amount of nitrogen in the food, and compared it with the amount contained in the fæces and urine excreted. The "cramming" was carried out by the stomach-tube, as originally proposed by Debove, and also without this instrument, as recently recommended by Peiper, and the observations lasted in each case over a period varying from three to eleven days. The material used consisted of pulverised meat mixed with milk, and of this mixture 700 c. c. were given at a time, containing 400 grammes of meat powder. This, it was believed, contained as much nitrogen as $3\frac{1}{2}$ lbs. of fresh meat. The mean amount of nitrogen digested was about 54 grammes, and the maximum 80 grammes, while the average amount of nitrogen excreted was 34 grammes, and the maximum 56 grammes, whereas, before the treatment was adopted, the nitrogenous excretions only ranged from 9 to 16 grammes. Thus it was shown that a great increase in the breaking-down of albuminous constituents went on, and that also the amount of nitrogen assimilated was much increased. It was noticed that the body-weight increased nearly 1 lb. a day, and that the appetite greatly improved. Kurloff fully confirms Debove's results in the treatment of consumptives. He finds that the cough and expectoration diminish, the diarrhoea and night-sweats cease, and that the general health and condition of the patient are much benefited.

In certain well-selected cases of phthisis, in which the disease is one-sided, of pneumonic type; in which active extension has ceased; and profuse expectoration, hectic character of temperature, sweatings, and wasting, indicate that the patient is struggling through the eliminative period of the diseases,—treatment by super-alimentation and massage, on the plans laid down by Weir-Mitchell and Playfair, may be attended with brilliant results. An instance of this kind was recently witnessed by Dr. Powell in the case of a lady who had undergone treatment by Dr. Playfair.

15. Treatment of phthisis by gaseous injections into the rectum.

M. L. Bergeon has recently drawn the attention of the Académie des Sciences (*La Semaine Médicale*, July 14, 1886, p. 283) to the method of treating various diseases by the injection of gases into the rectum, and especially to the treatment of phthisis in this way by sulphuretted hydrogen. This is effected by passing 4 or 5 litres of carbonic acid through sulphuretted water, thus displacing a certain quantity of sulphuretted hydrogen gas, and carrying it on with the carbonic acid, injected by means of an enema pipe into the rectum. M. Bergeon introduces this quantity twice in the twenty-four hours. The effect of the carbonic acid is only that of a slight anæsthetic to the rectum, the active agent being sulphuretted hydrogen. The results claimed to have been observed are (1) great diminution of cough; (2) modification both in quantity and quality of expectoration; (3) cessation of sweatings; (4) increased dryness of râles; (5) improved general state not only in incipient, but in confirmed cases of phthisis.

M. Cornil (*La Sem. Méd.*, Oct. 20) bears testimony to the good results obtained by Bergeon in phthisis, and also by Chantemasse in other pulmonary and bronchial affections. Nine patients at the Hôpital St. Antoine presenting the signs of pulmonary tuberculosis, with bacilli present in the sputa, obtained great relief from this treatment in a period of six weeks, gaining weight considerably, and with abatement of cough and expectoration. M. Cornil cautiously adds that these first trials are insufficient to permit of conclusions being drawn as to the absolute value of the method, but they are sufficient to encourage farther observations on animals artificially rendered phthisical.

M. Bardet (*Les Nouveaux Remèdes*, No. 22, Nov., 1886) gives a figure of the apparatus, with full directions necessary for these gaseous injections, and speaks well of the treatment so far as there has yet been time to judge of it.

The idea on which this treatment is founded—viz., that sulphuretted hydrogen, a powerful antiseptic, is readily absorbed by the rectum and exhaled by the pulmonary and bronchial surfaces, where it comes into intimate contact with the organisms of phthisis—is a scientific conception requiring experimental demonstration. If, however, the results obtained by further trial prove as good as those reported, they would justify the adoption of this at first sight somewhat grotesque and repulsive method of treatment. As yet no judgment can be formed on the matter.

16. Treatment of pleural exudations.

At the Wiesbaden Congress of April, 1886, Fräntzel gave his

experience of over 400 cases of pleural exudation. In cases of fibro-serous exudation, he considers that, if there is only a moderate amount of fluid and no great displacement of neighbouring organs, tapping should not be performed until the height of the inflammation is over, and that, as a rule, three weeks should elapse before operating. Great dyspnœa, however, and absolute dulness of the chest demand immediate tapping. Weber, of Halle, in discussing Fräntzel's paper, preferred to tap much earlier, even at the sixth or eighth day, and, as a rule, before the fourteenth. He thought that in this way one avoided long-standing compression of the lung and the formation of a capsule round the effusion. Litten, of Berlin, also recommended early tapping, and Fräntzel, in reply, was inclined to agree with the other two observers.

As regards the method of operating, Fräntzel considers it unadvisable to puncture deep in the back, and recommends that on the right side the puncture should be made between the mammary and anterior axillary lines in the fourth interspace, and on the left side in the similar line in the fifth space. He uses an aspirator with a capillary trocar of his own construction, and aspirates slowly—1,500 c.c. (which he believes the maximum amount it is desirable to remove at one time) should take at least half-an-hour to aspirate. After aspiration an ice-bag is placed on the puncture, and the patient put upon spare diet. Most of the speakers in the debate used instruments of their own invention; Weber, Fiedler, and Heusner preferring the syphon action, while Finkler agreed with Fräntzel in recommending the aspirator. Weber thought it desirable to let the fluid run as long as it would, and in this he was supported by Fiedler. Finkler considered it advisable to wash out the cavity after operation, but in this he was not supported by the other observers. Fräntzel asserts that after tapping the fluid slightly increases, and then is rapidly absorbed, its disappearance being hastened by local applications of iodine, &c., and diuretic medicines. When the amount of exudation is large, repeated aspirations are necessary. If the liquid is bloody, it should be removed very slowly, and only a small quantity taken away at each aspiration, while, if the fluid becomes almost entirely blood, the aspiration should be stopped. Jürgensen thought little harm was done by piercing the lung substance with slender cannulæ.

In *purulent* or *putrid* exudations, operation should not be delayed when the diagnosis is once made. Fräntzel aspirates two or three times before trying the radical operation; but he says that this latter is always necessary, unless the purulent effusion

is caused by tubercle, when he trusts entirely to tapping. The radical operation should be performed under strict antiseptic precautions, and should consist of a pretty wide opening into the pleural cavity, and one opening should be made in the ninth or tenth intercostal space behind, and in the fourth intercostal space in front, external to the mammary line. The thickest possible drainage-tube should be drawn through from before backwards, or two tubes used, one for each opening, dipping deep down into the wound. The cavity should be washed out with disinfectant solutions until the fluid comes away clear. Fräntzel considers one washing sufficient in the case of children, but adults require it several times. After the washing antiseptic dressing should be applied, an ice-bag placed over the part, and the dressing changed in twenty-four hours. Any collections of pus should be removed by counter-openings. Nourishing diet, rest, wine, and change of air, should also be prescribed. In most cases the ribs require to be resected so as to avoid leaving any fistula, which, as Jürgensen pointed out, frequently kills the patient from amyloid degeneration, when otherwise he might be cured.

The practice of making a double opening for the drainage of an empyema is now almost completely abandoned by English surgeons. In aseptic cases, washing out the pleura is not necessary, and is attended with a certain degree of danger. In foetid cases it is sometimes necessary to wash out the pleural cavity for the first few dressings, but, if the drainage be free and sufficient, the foetor soon becomes rectified under antiseptic precautions.

17. Pleurisy and empyema.

Aufrecht (*Berliner klin. Woch.*, No. 10, 1886) does not puncture the chest in serous pleurisy, unless the fluid is very abundant. From the commencement of the illness he prescribes salicylic acid in doses amounting to 75 to 90 grains per day, reducing the dose in a few days to 60 or 45 grains per day. The medicine should, however, be continued for eight to ten days.

Puncture of the chest should be practised when tension begins to appear, which, according to Aufrecht, usually happens when the effusion reaches as high as the third intercostal space. Not less than 1,500 grammes, nor more than 2,500 grammes of fluid should be withdrawn. In empyema Aufrecht has never seen good results from simple puncture, even in children. For washing out the pleura he uses a solution of nitrate of silver, having a strength of 0.2 to 1000. He believes that this solution does not cause symptoms of collapse, such as are observed occasionally after the use of carbolic acid or thymol.

18. Treatment of empyema.

Godlee (*Lancet*, 1886, vol. i., pp. 51, 95, 143, and 189) shows that in children some cases of empyema recover without surgical interference. In chronic phthisis, an empyema may more safely be left alone if the fluid is giving rise to no inconvenience. Again, in a tuberculous case where the empyema is in direct communication with a bronchus, it is advisable to take no surgical steps if the fluid itself is not causing symptoms. Similarly non-tubercular cases, in which the empyema is being expectorated, should be left alone.

A case should be aspirated once at least, and the operation repeated, if the fluid is slow in accumulating, but, if the accumulation is rapid, it is better to incise at once.

An incision is best made a little outside and below the angle of the scapula about opposite the eighth or ninth rib, and it is better to excise a portion of a rib. Rigid antisepticity should be observed, even for a few days after putrid signs have been noticed, for these may disappear. The drainage-tube should be retained in adults until the discharge has almost stopped; but in children it may be removed in about a fortnight. As soon as the general health will allow, patients should be allowed to get up.

In chronic cases, Mr. Godlee recommends removing a rib by a flap operation, and thinks it better to remove the periosteum, since it so soon throws out new bone that the effect of the operation is negated. Mr. Godlee has scraped the pleura with a Volckmann's spoon in some instances, but, as a rule, considers such a proceeding dangerous.

As local application he considers that iodoform may be used with the greatest advantage, and he further recommends that the drainage-tube should be inserted as high as possible.

19. Empyema in children.

Branthome (*Bull. Gén. de Thérap.*, 1886, p. 287) maintains that puncture alone will suffice to cure empyema in children in some cases, and usually the cure is effected after one or two punctures. He advises that mere aspiration should not be practised more than twice, and then, if the temperature does not fall, if the pus is reproduced, and if the general symptoms do not mend, a free incision should be made.

For more full discussion of empyema, see "Year-Book" for 1884, pp. 22—25.

20. Operative treatment of hydatids of the lungs.

Israel (*Deutsche med. Wochenschr.*, May 13, 1886) discusses the methods to be followed in opening an echinococcus cyst in the lung, and quotes a case which he treated successfully in this

manner. He believes it of the greatest importance to prevent the hydatid fluid from entering the pleural cavity. For this end, if there is still negative pressure in the pleura, it is advisable to perform the operation in two stages; first, adhesions must be set up between the lung and the pleura, and then after about three days the cyst may be opened. If, however, there is positive pressure in the thorax after resection of a rib, an incision may be made at once into the cyst; the cyst itself bulging through the incision will prevent any fluid passing into the pleura. The positive pressure may be recognised by the absence of any inspiratory depression in the bared pleura.

The case which Israel describes is the following:—A patient, aged twenty-five, was admitted into hospital with the history of having for two months suffered from difficulty of breathing and cough, with occasional hæmoptysis. There was marked prominence of the right side of the chest below the third rib. Hydatid of the lung was diagnosed, and a small quantity of fluid withdrawn by a Pravaz syringe confirmed the diagnosis. Immediately after the puncture, however, violent fits of coughing came on and the cyst burst into the lung. The next day the temperature had risen to 104—5°, and there were signs of extensive bronchitis and right-sided pleurisy. There was also excessive dyspnoea. An incision was at once made with the object of liberating some of the pleuritic exudation, but the cyst bulged through the opening and prevented the exit of any fluid from the pleura. The cyst was then incised and emptied, and the pleural cavity drained. The wound and the pleura were disinfected with salicylic solutions, and a drainage-tube inserted. The patient made a complete recovery.

DISEASES OF THE NERVOUS SYSTEM.

BY JAMES ROSS, M.D., LL.D., F.R.C.P.,

Senior Assistant-Physician to the Manchester Royal Infirmary.

1. Electrical treatment.

The most notable event of the year, with regard to the treatment of diseases of the nervous system, is the appearance of a second edition of Erb's "Handbook of Electro-Therapeutics" (*Ziemssen's Handbuch der allgemeinen Therapie*, Bd. iii. ; 2 Aufl.). In this work much new and valuable information is to be found respecting the measurements of current strengths by means of an absolute unit-galvanometer ; the physical laws which underlie the application of electricity to living tissues ; and the physiological effects of such application. To the physician the most valuable part of the work consists of the large number of illustrative cases which are given, and in which electrical treatment has been followed either by complete recovery or marked improvement. The best results have been obtained in various spasmodic affections ; in atrophic paralyses ; in disorders of the cutaneous and visceral nerves, and the nerves of special sense ; and in neuroses, like neurasthenia, hypochondriasis, and hysteria. A new feature in the methods of applying electrical treatment is afforded by the precise directions given for the use of various forms of electrical baths.

Prof. Adamkiewicz, of Cracow (*Wiener med. Blätter*, May 27, 1886), has tried to increase the efficacy of the galvanic current in the treatment of neuralgia, by combining with it the action of a local anæsthetic. Wagner had previously found that an intense local anæsthesia could be produced by moistening the electrodes with a solution of cocaine, but for economical reasons Adamkiewicz substituted chloroform for this solution. As chloroform is volatile, a special mechanism, named the *diffusion-electrode*, had to be devised in order to keep the electrode-cover constantly moist. It consists of an electrode, of which the button is made of hollow metal and the

part in contact with the skin of a thin disc of battery-carbon, through which any fluid in the hollow soon permeates, thus keeping the electrode-cover always wet. The diffusion-electrode, on being filled with chloroform, is attached to the positive pole of the battery and placed on the painful part, while the negative-electrode is applied to some indifferent spot. A weak current is first used, which is gradually increased to a strength of from 3 to 7 milliamperes, and after the application has lasted from two to three minutes, the current is gradually reduced to zero, when the electrodes are removed. The skin over which the diffusion-electrode was applied is found to be completely anæsthetic, and, although some degree of sensibility returns after from three to five minutes, the effects do not wholly disappear for some hours. My friend, Dr. Dixon Mann, informs me that this application causes the skin to blister very readily, but this accident is not likely to prove disadvantageous in the treatment of neuralgia affecting deeply-seated nerves like the sciatic.

2. Hypnotics.

(a) *Paraldehyde and urethane*.—The knowledge that chloral tends to paralyse the heart led Schmiedeberg and Cervello to search for a hypnotic which should not contain chlorine, and the result was the discovery of paraldehyde. The value of this drug as hypnotic is now well established, but it would appear from recent observations that it is not so free from unfavourable secondary effects as has hitherto been supposed. Dr. Sommer, of Altenburg (*Medical Chronicle*, vol. v., p. 43, Oct., 1886), administered a daily dose of one drachm of this drug to a patient, aged eighteen years, who presented on the seventh day, soon after drinking some beer, a deep scarlet injection of the skin of almost the whole of the head, neck, back, and posterior surfaces of the lower extremities, and of portions of that of the chest, abdomen, and upper extremities. By way of experiment Sommer gave on the following morning another dose of paraldehyde to the patient, and a small quantity of alcohol next morning, when the bascular injection reappeared. The author concludes that paraldehyde ought not to be given to patients suffering from atheromatous defects, and should not be used along with alcohol. Schmiedeberg has, recently, utilised ammonia, because of its well-known stimulant action, in the production of another hypnotic. The substance in question is æthylic ether of carbinic acid or urethane ($\text{N H}_2 \text{C O}_2 \text{C}_2 \text{H}_5$). This substance is obtained in beautiful white crystals; it has no odour and no disagreeable taste, and is freely soluble in water. The action of the drug on the human body has been investigated by Von Jaksch (*Wiener med. Blätter*, 1885,

No. 33 and 34); Kraepelin (*Neurolog. Centralbl.*, 1885, p. 103); Myrtle (*British Med. Jour.*, 1886, vol. i., p. 343), and other observers. It is given in doses of from 15 to 45 grains, and in about ten or fifteen minutes after it is taken a quiet sleep ensues, which usually lasts several hours, and from which the patient awakes refreshed. But, although urethane is a very effective hypnotic, it is not an anodyne, and does not remove pain. It may, however, be profitably combined with morphia. It is a very useful sedative in the restlessness and sleeplessness which accompanies feeble and irregular action of the heart from valvular disease or cardiac dilatation.

(b) *Aceto-phenone* ($C_8 H_8 O$) has been introduced as a hypnotic by Dujardin-Beaumetz (*Bull. Gén. de Thérap.*, Jan. 15, 1886), who names the substance *hypnone*. This substance is a colourless, mobile liquid, having an odour not unlike oil of bitter almonds or cherry-laurel water. It communicates to the breath a somewhat disagreeable odour, but its taste may be masked by syrup of orange flower or oil of sweet almonds. It may be diluted with either alcohol or glycerine, but it is best given in capsules. Dujardin-Beaumetz asserts that when given in doses of from 2 to 15 minims in cases of sleeplessness, due to excitement from alcoholic excess or intellectual work, it procures calm sleep without nightmare, and without the nausea on awaking, which so frequently follows chloral hydrate and paraldehyde. The usefulness of this drug is, however, by no means fully established yet.

(c) *Jamaica dogwood* (*piscidia erythrina*) has been used by Dr. F. S. Halsey (*Therapeutic Gazette*, July 15, 1886) as a hypnotic to allay restlessness arising from such various conditions as ulcer of the foot, phthisis, fracture, syphilis, and neuralgia. It was given in the form of a fluid extract, a drachm being prescribed at bedtime. The effect of the drug was to secure a sound and refreshing sleep, even in cases in which opium failed, and its use was not followed by any unpleasant after-effects.

Dr. J. A. Mayes (*The American Practitioner and News*, June 25, 1886) also speaks highly of the analgesic and hypnotic action of this drug, and he believes it to possess nearly all the good and none of the bad properties of opium. He found it to relieve pain promptly, and to soothe the nervous system so as to induce sleep, without being followed by the nausea and gastric disturbance which is so frequently caused by opium. This author specially recommends it in the treatment of delirium tremens, the doses employed being from $\frac{1}{2}$ to 1 drachm of the fluid extract.

(d) *Ethoxycaffeine*, produced by the substitution of an atom of ethoxyl for an atom of hydrogen in caffeine, is found by Dujardin-

Beaumetz (*Bull. Gén. de Thérap.*, March, 1886) to have some valuable therapeutic properties, the most important of those being its effect in cutting short an attack of migraine headache. Ethoxycaffeine is met with in the form of white crystals, which are insoluble in water, but soluble in a watery solution of salicylate of soda. The drug is apt to cause heat at the epigastrium, nausea, and vomiting, and, in order to prevent these unpleasant symptoms, hydrochlorate of cocaine is added to the prescription, the following draught being recommended :—

Ethoxycaffeine	...	...	...	...	...	3½ gr.
Salicylate of soda	...	...	...	...	...	3¼ gr.
Hydrochlorate of cocaine	...	...	...	...	...	1½ gr.
Syrup and water	...	...	...	...	...	3 oz.

In one case of migraine, this draught, administered at the height of the attack, gave relief in an hour. One of the students, who suffered from intense migraine, took 7½ grs., and two hours afterwards the patient slept, and on awaking the pain had disappeared, and there were no unpleasant after-effects.

(e) *Hydro-iodate of hyoscine as a cerebral sedative.*—Dr. Mitchell Bruce (*Practitioner*, November, 1886, p. 321) reminds us that in cases of cerebral excitement there still remains in many instances an urgent demand for a sedative that can be readily administered and will act immediately and for several hours, so as to afford quiet and rest, both to the patient and to those around him.

A remedy possessing these properties will be as valuable in hospitals as in private practice; and his experience is that, for the troublesome noisy delirium which disturbs a ward for a whole night, breaking the sleep, raising the temperature, and generally aggravating the symptoms of all the bad cases in it, there is no treatment at once so prompt, successful, and safe as a hypodermic injection of hyoscine.

The salt which he has employed is the hydriodate prepared by Merck, and supplied by Martindale in the form of a simple aqueous solution according to this formula :—

R Hyoscinae Hydriodatis, gr. j.
Aqua Distillatae, ℥ 200.
Misce et fiat solutio.

One minim contains $\frac{1}{200}$ gr. of the salt. It is, of course, desirable to use as fresh a solution as possible. This preparation may be given either subcutaneously or by the mouth. Dr. Bruce's experience is decidedly in favour of administration under

the skin, which, besides being the more practicable, or perhaps the only possible method in delirious patients, unquestionably secures rapidity and certainty of action. The dose that he recommends for ordinary cases of restless, noisy insomnia and delirium, is $\frac{1}{200}$ gr. hypodermically. If the symptoms be very urgent, or amount to violence, $\frac{1}{100}$ gr. may be safely given, or even $\frac{1}{75}$ gr. with caution, the general condition of the patient being carefully taken into account. He has usually administered the drug but once a day—in the evening, in order to secure a quiet night; but, in cases of high delirium, it has been repeated within four or six hours with safety and advantage.

Hyoscine and its allies, when employed in cerebral cases, are to be used only to combat urgent symptoms. They ought not to be expected to cure any disease. If they remove delirium and procure quiet and sleep, they certainly have proved their value, and fulfilled the indication for their rational employment. Nothing more than this ought to be required of them. When this point is granted, one of the chief objections to hyoscine—that its effects are temporary only—is anticipated; it is not intended to be other than a temporary remedy.

A more serious disadvantage that might be urged against hyoscine is the unpleasant symptoms to which it sometimes gives rise in connection with respiration and circulation. Within half an hour after the administration of a full dose (say $\frac{1}{100}$ to $\frac{1}{75}$ gr. hypodermically) it may cause failure of respiration in the form of rapid, shallow breathing, or even Cheyne-Stokes rhythm. It has also been observed that, with some patients, cough has been aggravated on the nights that hyoscine has been given in delirious cases. At the same time, the pulse may become weak and infrequent, the face livid, the pupils dilated, the whole appearance of the patient being calculated to cause anxiety. *Per contra*, it is to be observed that Dr. Bruce's cases include instances in which hyoscine was given with perfect safety in double pneumonia, in urgent cardiac dilatation, and in chronic Bright's disease with delirium, conditions which might certainly be expected to test the dangerous influence of a drug on the great vital centres. What is most to the point, however, is the assurance that perfectly good results have been obtained from doses far short of producing unpleasant symptoms.

Dr. G. W. Mann (*The Medical Bulletin*, August, 1886) directs attention to the action of chloral in neutralising that of hydrochlorate of hyoscine. A lady had taken by mistake $\frac{1}{50}$ th of a grain of hydrochlorate of hyoscine, and was seized with convulsions, loss of speech, illusions, and hallucinations. Chloral

was given in doses of 10 grains every quarter of an hour, and in less than an hour the convulsions had disappeared. The same dose of chloral was now continued every hour until 90 grains were administered, when all further need for its use ceased.

(f) *Caffeine*, in combination with morphine, has been recommended by Dr. John Cochrane (*New York Medical Record*, July 17, 1886) for subcutaneous injection, the former counteracting the depressing effects of the latter drug. He gives the following formula:—Caffeinæ, gr. $\frac{1}{6}$; morphinæ sulph., gr. $\frac{1}{6}$; atrophinæ sulph., gr. $\frac{1}{100}$; aq. camph. m 20. He has used this solution with benefit in acute and chronic cardiac diseases, hysteria, infantile convulsions, and alcoholic mania. He used caffeine alone successfully in an aggravated case of morphinism.

3. Local analgesics.

(a) *Brucine and theine*.—Dr. Thomas J. Mays, of Philadelphia (*Medical News*, 1885, No. 24), drew attention last year to the local anæsthetic action of brucine and theine. He found that a 5 to 10 per cent. solution of brucine relieved the scalding on the lip and tongue produced by cayenne pepper, the itching produced by croton oil, and the burning caused by a mustard plaster. He found this application very effectual in relieving the intense itching of pruritus of the anus and vulva. The author found that theine and caffeine, which have been regarded as identical, differ considerably in their actions, the former acting chiefly on the sensory, and the latter on the motor nerves.

Dr. Mays, in a further communication (*Medical News*, 1886, No. 16), gives the results obtained by the employment of theine, as a local anæsthetic, in thirty-nine cases of various painful affections, such as rheumatic pains, lumbago, and neuralgia of the sciatic, intercostal and cervico-brachial nerves. He found that, whereas brucine paralyses the nerves of sensation from the periphery to the centre, theine paralyses them from the centre to the periphery, and consequently a subcutaneous injection of theine (dose from $\frac{1}{10}$ to $\frac{1}{8}$ grain) was used near the central origin of the pain. The drug seems to exert its chief action on the trunk of the nerve at the point of its injection, and this action distributes itself downwards along the course of the nerve, so that a localised anæsthesia, below the seat of injection, results. By means of subcutaneous injections of theine employed in this manner, patients suffering from the most excruciating neuralgic pains are said to have been relieved in less than five minutes, and the pains do not return in less than from ten to twenty-four hours, and then, probably, not in their original intensity.

(b) *The cresol group*.—Carbolic acid, and the cresol group of

compounds generally, are said by Dr. McNeill (*Edinburgh Medical Journal*, June, 1886) to act as local analgesics. He finds that the skin may be rendered insensitive to superficial incisions by brushing over the part with a mixture of 60 parts of carbolic acid and 40 parts of oil, or a 20 per cent. solution of acid and glycerine. The deeper parts may even be opened painlessly by introducing some of the mixture into the wound after the skin is incised. Of the other cresol compounds, benzol and tolnol had no effect, but a mixture of ortho- and para-cresol, sold as cresolene, acted like carbolic acid, but less powerfully, while para-cresol, in combination with equal parts of oil, produced marked local analgesia.

(c) *Cocaine* is recommended by Dr. C. N. Dixon Jones, of Brooklyn (*New York Medical Record*, July 3, 1886), as a local anæsthetic, with the view of avoiding some of the disagreeable symptoms attending the operation of washing out the stomach. Fifteen minutes before commencing the operation the patient is allowed to hold in his mouth a piece of absorbent cotton saturated with a 4 per cent. solution of hydrochlorate of cocaine; in a few minutes the palate and fauces are painted with the same solution. The stomach-tube is lubricated with a mixture of olive oil, oil of winter-green, and cocaine, after which it may be introduced, and the stomach irrigated without that disagreeable vomiting of the tube and efforts at gagging which frequently attend the operation. Dr. Bockhart (*Monatsh. f. prakt. Dermatol.*, 1886, No. 3) recommends cocaine as an anodyne in mercurial stomatitis. He paints a 5 per cent. solution on the gums when the swelling is moderate, but uses a 10 or even a 20 per cent. solution in severe cases, the application being made once or twice daily an hour or at a shorter interval before food. When the solution comes in contact with the mucous membrane it causes a momentary sensation of burning, and a temporary increase in the secretion of saliva. After the brush has been used it must be disinfected by means of a solution of carbolic acid, in order to prevent the development of the bacteria which it brings from the gums.

4. Acute alcoholism and dipsomania.

(a) *Strychnia*, in considerable doses, has been recommended by Dr. Lardier (*Medical News*, Jan. 2, 1886) in the treatment of delirium tremens. In one case he gave a granule, containing $\frac{1}{13}$ of a grain, every two hours, but, as at the end of several days the drug produced no appreciable effect, he increased the number of granules, and, in addition, injected some under the skin, giving $1\frac{2}{3}$ grains in the course of twenty-three hours. The patient soon fell into a refreshing sleep, without at any time manifesting a

symptom of strychnia-poisoning. Dr. U. M. Popoff, of St. Petersburg (*British Medical Journal*, May 1, 1886), has successfully employed nitrate of strychnia in two cases of dipsomania. In one of the patients, $\frac{1}{30}$ of a grain was administered subcutaneously, during a drinking bout, at first daily, then every other day, and then twice a week, &c. The patient ceased to ask for drink after the second injection, and various troublesome symptoms, like headache, weakness, and general discomfort, disappeared within the next two days. On subsequent occasions the usual premonitory symptoms of an impending attack of dipsomania, such as craving, anxiety, irritability, and agoraphobia, were removed by a few injections of $\frac{1}{60}$ or $\frac{1}{45}$ of a grain. In the other patient, dipsomania disappeared under the internal administration of strychnia, the drug being given twice a day in pills for the first two weeks in doses of $\frac{1}{30}$, and for another two weeks of $\frac{1}{60}$ of a grain. This treatment has been favourably reported upon by v. K. Tolwinski, Manassein, and Parzewski (*Neurolog. Centralblatt*, Bd. v., p. 567, 1886).

(b) *The Kola nut*, which is indigenous to the West African Coast, is said by Mr. Walter Smith (*Med. Chronicle*, vol. iv., p. 224, June 4, 1886) to have a remarkable effect in acute alcoholism. At a recent meeting of the Linnæan Society a member gave an account of the effects produced by this nut. He stated that the foreman of his estate was in the habit of giving way to alcoholic excess every Saturday night, and on Monday morning he took a Kola nut, reduced to a paste by his wife, and the effect was that in thirty minutes his head was clear, and he was quite fit to begin work. It was also stated that, after partaking of the Kola paste, the alcoholic *devotée* cannot return to his beverage for several days without a feeling of nausea. At some of the garrison towns, the nuts are sold by the natives to soldiers who have indulged too freely, and the men who eat the paste are said to be quite clear-headed by the time they reach the barracks. Dr. A. Hudson, Medical Inspector of the United States Navy, administered the paste with much apparent benefit in a case of mitral disease with granular kidney, in which the patient was suffering from headache, lassitude, and other symptoms of uræmic poisoning.

5. Chorea.

Arsenic is strongly recommended by Dr. Cheadle (*Practitioner*, Feb., 1886, p. 81) in the treatment of chorea, and, although this is the drug which is most commonly used in the treatment of the disease, it is often administered in inefficient doses. The author recommends that the treatment should be begun with the administration of from 2 to 3 minims of the liq. arsenicalis in water, or

in 2 drachms of steel wine, two or three times a day, and the dose to be gradually increased to 10 or 12 minims, which is the usual limit of toleration. If symptoms of gastric disturbance or other toxic effects appear, a calomel purge is given, and the arsenic omitted for two or three days, but is resumed in somewhat smaller doses when the disturbance has subsided. The author insists strongly on the necessity of regulating the bowels during the treatment, and advises that 2 or 3 grains of calomel, either with or without compound jalap powder, be given once or twice a week. He draws attention to a *bronzing* of the skin which occasionally results from a prolonged course of large doses of arsenic, and which appears to have escaped the notice of previous observers, but makes light of the evil effects of the drug so much dreaded by the older authors. The treatment of particular cases of chorea demand, in addition to the arsenic, sedatives, rest, full diet, shampooing, and calisthenics, either separately or combined, according to the complicating symptoms.

6. Peroxide of hydrogen in epilepsy.

Dr. B. W. Richardson (*Asclepiad*, Oct., 1885) believes that the peroxide of hydrogen is a valuable agent in the treatment of epilepsy. He recommends a drachm of the ten-volume solution to be given three times a day in half a tumbler of water, and the dose to be gradually increased to 2 or 3 drachms. The metallic taste may be reduced by a drachm of glycerine with each dose.

7. Headache.

Antipyrine, in doses of 15 grains and upwards, is said by Dr. J. B. White (*New York Med. Record*, Sept. 11, 1886) to afford remarkable relief in headache, whether arising from disordered digestion, disturbance of the menstrual functions, loss of sleep, severe mental effort, or uræmia, and he believes that it is also a powerful prophylactic against recurrent attacks of cranial neuralgia. In about half an hour after the administration of the drug the patient feels drowsy, and falls into a brief slumber, from which he soon awakes free from headache.

8. Neuralgic and other pains.

The treatment of neuralgia by means of *methyl-chloride* spray, introduced by Dr. Debove (*Le Progrès Méd.*, 1884, p. 686), and described by Dr. de Watteville in the "Year-Book" for 1885, has since been favourably reported upon by Dr. Tenneson (*Le Progrès Méd.*, 1885, p. 192). Out of thirty-one cases treated by the spray, ten were cases of sciatica, and of these nine were at once cured, and one, who had a relapse, was cured by a second application; eleven were cases of muscular rheumatism, and of these nine were completely cured; and five were cases of acute

rheumatism, and in these the pains disappeared after one application. In several cases of pneumonia and pleurisy, the pain disappeared after a single application, and the patients made a rapid recovery. As to the accidents which are said to arise from the application of the spray, these may be entirely prevented by reducing the duration of the application, a duration of five or six seconds being sufficient.

Prof. Laschevitch (*Revue de Médecine*, Aug. 10, 1886) reports favourably on the action of cocaine in the treatment of angina pectoris. Permanent relief was afforded to each of four patients to which the drug was administered, in doses varying from $\frac{1}{8}$ to $\frac{1}{2}$ of a grain three times a day. The good effects of the medicine were not apparent at first, but the attacks were always checked within three days. The pulse became slower and fuller, and the quantity of urine was increased. The author also recommends inhalations of oxygen, which, along with the administration of cocaine, he believes to be the best means of cutting short the attacks and preventing their recurrence.

M. Henri Huchard (*Journ. de Méd. de Paris*, May 23, 1886) recommends iodide of sodium in the treatment of angina pectoris. He advises that it should be given in a daily dose of from 15 to 45 grains, and continued at least eighteen months after all the symptoms of angina have disappeared. He asserts that in order to effect a permanent cure the treatment must be carried out for at least three years. His reasons for selecting the sodium iodide are that the potassium salts are cardiac poisons, and liable to paralyse the action of the heart.

Iodoform collodion, consisting of 1 part of iodoform and 15 parts of collodion, is recommended by Dr. W. Browning, of Brooklyn (*American Journal Med. Sci.*, Oct., 1885), in the treatment of neuralgia. The collodion is painted, by means of a camel's-hair brush, over the painful part, and as soon as one coat is dry, another is applied, and so on, until an average thickness of about $\frac{1}{2}$ mm. is attained. In localised neuralgia of functional origin, a cure was accomplished with one or two applications, and cases of complete or partial failure were generally discovered to be due to some organic disease. This treatment was found useful even in ophthalmic neuralgia of malarial origin, although in such cases it must be regarded only as an adjuvant to the treatment by quinine.

9. Treatment of neurasthenia by isolation, massage, &c.

Dr. Playfair (*British Med. Jour.*, 1886, vol. ii, p. 853) bears remarkable testimony to the good results obtained in aggravated

cases of neurasthenia by isolation, rest, massage, electricity, and hyperfeeding—the Weir-Mitchell treatment. This paper is illustrated by two woodcuts, taken from photographs, which show in a striking manner the extreme emaciation of the patient before, and his plump and well-nourished condition after the treatment.

Prof. Leyden (*Deutsche med. Woch.*, 1886, No. 24), at a meeting of the Society of International Medicine, at Berlin, spoke strongly in favour of the good effects produced by this treatment in suitable cases, while he, at the same time, pointed out some of its defects, the chief one being its expense. In the discussion which followed, Mendel and Gnauck bore emphatic testimony to the efficiency of the treatment.

DISEASES OF THE STOMACH, INTESTINES, LIVER, ETC.

BY SIR DYCE DUCKWORTH, M.D., F.R.C.P.,

Physician to, and Lecturer on Clinical Medicine at, St. Bartholomew's Hospital.

AND

ROBERT MAGUIRE, M.D., M.R.C.P.,

Physician to Out-Patients, and Joint Lecturer on Pathology, at St. Mary's Hospital.

1. Dyspepsia.

Riegel (*Zeitschr. f. klin. Medic.*, Bd. xi., Heft 2 & 3) considers that the stomach-tube should be used whenever there is evidence that the duration of digestion is really lengthened, and when there is abnormal fermentation. It may be required even if the secretion be increased, for this may cause delay of digestion and consequent dilatation of the stomach. In some cases of dyspepsia there may be slow digestion and dilatation of stomach, even when the secretion is normal. The slow digestion is here due to want of motor power, and in such cases massage and electricity are of use, but at the same time the quantity and quality of the food should be rightly selected, and the amount of liquid diminished. Dilatation with increased secretion requires diminution of amylaceous diet, neutralisation of acid, restriction of food, and washing out of the stomach. Riegel thinks that it is best to wash out the stomach at bed-time, so as to give it as long a period of rest as possible. A second washing-out may, in some cases, be required in the morning.

The old empiric treatment of dyspepsia, by hydrochloric acid and pepsine, seems to be justified by the facts that in all cases of dyspepsia, not due to nervous disturbance, the stomach secretion is deficient in both acid and pepsine. Nevertheless, both Leube and Riegel have found the treatment to be not so successful as they were at first led to suppose. Riegel considers it better to give peptones instead of the acid and pepsine. Wherever

acids are indicated by absence or deficiency of hydrochloric acid in the gastric juice, Riegel recommends that they should be given in frequent small doses, not beginning until an hour or so after a meal, so as not to interfere with the digestion of starchy matters.

Riegel (*Deutsche med. Wochenschr.*, 1886, No. 35) again asserts that, before ordering hydrochloric acid in dyspepsia, we should ascertain whether that acid is or is not deficient in the stomach secretion. The test for it is paper stained with congo-red which turns blue with 0.0019 per cent. of H Cl. and shows no change with lactic acid, unless a proportion of at least 1 per cent. is present. (*Med. Chronicle*, vol. v., p. 10.)

2. Acid dyspepsia.

Monin (*L'Union Médicale*, Feb., 1886) recommends :—

R	Pulverised phosphate of zinc...	...	...	10 parts	
	Calcined magnesia	...	...	3	"
	Pulverised vanilla	...	...	1	"
	One teaspoonful in a wine-glassful of water.				
					M.

3. Nervous dyspepsia.

Leyden (*Berl. klin. Wochenschr.*, 1885, Nos. 30 & 31 ; *Centralbl. f. med. Wissen.*, 1886, p. 859), in the treatment of this affection, insists that attention should be paid, not so much to the state of the stomach, as to the general nervous condition. He recommends a mountain climate, absence from all business cares and irritations, regulation of meals, exercise, and complete rest. In suitable cases hydrotherapy, electricity, and massage may do good.

4. Disorders of stomach.

Da Costa (*New York Med. Rec.*, and *Dubl. Journal of Med. Science*, 1886, vol. ii., p. 126).

1. DYSPEPSIA.—Causes of functional indigestion :—

- (1) Eating too rapidly.
- (2) Drinking too much water at meal times.
- (3) Improper food.
- (4) Want of exercise.
- (5) Too much tea and coffee.
- (6) Too much tobacco.

Treatment.—Underdone meats and but little bread. No sweets. Pepsine sacchar. (5 gr.) at each meal. The mineral acids before meals, such as muriatic, nitro-muriatic, and phosphoric acids. Certain bitters, such as nux vomica and strychnine combined with gentian or calumba. An alkali a few hours after meals when there is great acidity, but it should not be used too frequently.

2. DILATATION OF STOMACH.—*Treatment*.—Dry, solid food; underdone meats; no milk. Carbolic acid to allay fermentation. Wash out stomach occasionally. Strychnine, hypodermically or by mouth.

3. CHRONIC GASTRITIS.—*Treatment*.—Cause to be removed. A scanty supply of food. Pepsine (5 gr.) at each meal. Milk, with a little meat, may be taken as food. Oxide of silver (dose, $\frac{1}{2}$ gr.) will be found of value. Bismuth is useful. Avoid tonics, but use the mineral waters to keep the portal system drained.

4. GASTRALGIA.—*Treatment*.—Diet of little importance. Stimulant at meals in small amount. Morphine relieves at once, but use it carefully.

(a) Bismuth with a little opium.

(b) Nitro-muriatic acid, gtt. ij.—ijj. diluted. Or,

(c) ℞ Morph. sulph. gr. $\frac{1}{32}$.
Acid. carbol. gtt. j.

Aq. menth. pip. ad. ʒj. ter die.

(d) Fowler's solution, beginning with one drop and increasing to five drops ter die.

5. Chronic gastric catarrh.

Delafield, of New York (*Therap. Gazette*, July, 1886, and *Practitioner*, vol. xxxvii, p. 285), considers the treatment of this affection under four headings: (1) climate and mode of life; (2) diet; (3) drugs; and (4) the use of local applications to the inflamed mucous membrane. The climate and mode of life can seldom be regulated; drugs may be of benefit in the early stages, but must be combined with other methods of treatment. To find the best food, Delafield agrees with Riegel that it is desirable to experiment with various articles of food, and wash out the stomach after a certain time, so as to ascertain how far digestion has progressed. He concludes that a starvation diet never benefits the patient; it is not desirable to "rest" the stomach; the patient's own ideas with regard to food are usually erroneous; it is not necessary to use artificially digested food, or to give pepsine; and starches, oatmeal, cornmeal, bread, cereals, and "health-food" are bad. Milk is in these cases an uncertain food. Meat, vegetables, and fruit may be taken. Delafield, however, strongly advises the local medication of the stomach. He passes a soft tube when the stomach is empty, and injects warm water, with or without alkalies, acids, bismuth, carbolic acid, salicylates, iodoform, belladonna, ipecacuanha, or gelsemium, according to the particular case. The fluid should be injected in sufficient quantity to come in contact with every part of the mucous membrane.

Milk diet may be necessary at first, but the regimen should be gradually improved.

[German and American physicians' accounts of dyspepsia are found to differ a good deal from those of British physicians. The diet and the cooking in Germany and America have, no doubt, much to answer for in the frequent production of gastric ailments. This too curious and intolerable plan of washing out the stomach at frequent intervals to watch the digestive process, is quite impossible, of course, in ordinary practice, and, in the great majority of cases, is certainly not necessary. What "*health-food*" may be, we do not know, but we should be inclined to call most of the so-called "peptonised" matters, advertised so widely, "*disease-food*," and rather to urge the digestive powers to deal with the food-products of this world in as true a state of nature as possible. One is saddened to read of the many complicated and unnecessary plans suggested nowadays in the treatment of disease; and as *massage* is uppermost just now, of course it is recommended for gastric catarrh. This is humiliating, and very discreditable. Why warm water should be put into the stomach *with a tube*, when the patient is provided with a mouth, and is not afflicted with glosso-labial paralysis, or with stenosis of the gullet, we quite fail to see. Surely great caution must be exercised in prescribing "fruit" (*sic*) in gastric catarrh. And what shall be said of injections of belladonna, and of iodoform and of gelsemium? Who will submit to such meddling, and who will be found to practise it?—D. D.]

6. Condurango-wine in stomach affections.

Wilhelmy (*Berl. klin. Wochenschr.*, 1886, p. 482) has for some years used Condurango preparations which were recommended by Friedreich in cases of cancer of the stomach. Decoction of Condurango is disagreeable in taste, and Wilhelmy therefore finds it better to make a wine by macerating 10 per cent. of Condurango in Madeira. To this wine citrate of iron may be added if desired. He has used the wine in cases of carcinoma of the stomach, and believes that he has relieved his patients thereby. Excellent results were obtained with the Condurango-iron-wine in cases of ulcer of the stomach. Pain and hæmorrhages ceased in two to four days, and in eight to ten days the patients could resume their employment. If anæmia were present, the wine was continued for some time after the urgent symptoms had disappeared.

7. Gastric ulcer.

Gempt (*Berliner klin. Wochenschrift*, 1885, No. 23, p. 482) advocates the use of iron in cases of gastric ulcer, in order to promote healing. Since most other iron preparations are irritating in this

disorder, he makes use of the liquor of the albuminate of iron, in doses of 2 to 4 grammes alone, or diluted with milk, three times a day, before meals. This preparation is entirely unirritating, and is very well borne. Together with the iron he prescribes a careful diet of milk, or beef-peptones, with small doses of Carlsbad salts, using morphia only when it is necessary to relieve pain.

[We have used the albuminate of iron as a powder in these and in similar cases. It is certainly very well borne, but in therapeutic efficacy it has not seemed to us better than the ordinary preparations in use.—R. M.]

8. Hysterical vomiting.

Dr. Maere (*Lancet*, Jan. 16, 1886) relates a case of obstinate hysterical vomiting which was cured by the introduction of Debove's stomach-tube, through which was poured, at first a litre, and afterwards longer and gradually increasing quantities of milk and other liquid nourishment. The pharynx was painted with a 1 per cent. solution of cocaine to facilitate the introduction of the tube.

[This is quite unnecessary. A large oiled bougie is all that is required, and one such introduction is commonly sufficient.—D. D.]

9. Carlsbad water.

Jaworski (*Gazeta Lekarska*, 1885, No. 17, and *Vratch*, 1885, No. 34) asserts that Carlsbad water at first diminishes, but afterwards increases, the digestive power of the stomach. In large doses, or when given for a long time, it greatly lowers the stomach functions, while small doses increase them. The amount of mucus in the stomach is diminished, and the secretion of bile is increased.

10. Influence of hot drinks on digestion.

Meshel, of St. Petersburg (*Lancet*, 1886, vol. i., p. 220), has experimented on the influence which warm drinks have on the digestive process. He finds that when not more than three tumblersful of hot tea are swallowed no effect is observed, but a larger quantity distinctly retards digestion. Hot and cold food seemed to be digested with equal ease.

[This refers to such teas as are consumed by the Russians. The same amount of infusion of Chinese or Indian teas would not fail to damage digestion very materially.—D. D.]

11. Digestive ferments.

Dr. Murrell (*Lancet*, 1886, vol. i., p. 394) shows that many specimens of pepsine are absolutely inactive, and that even with an active preparation one should give much larger doses than are commonly prescribed.

Purser (*Dublin Journ. of Med. Science*, March, 1886) is sceptical as to the value of digestive ferments in disordered states of the

stomach. He believes that failure of stomach digestion is not due to deficiency of pepsine, but to an absence of those conditions under which it is able to act.

Cheltsoff (*Lancet*, 1886, vol. i., p. 938) finds experimentally that bitters do not increase, but diminish, the secretion of gastric and pancreatic juices, and hinder the digestion of nitrogenous matters.

12. Cholagogues.

Paschkis (*Deutsche med. Zeitung*, and *Birm. Med. Review*, vol. xix., p. 185) finds that the bile acids are very powerful cholagogues. Cholic acid, glycocholate and taurocholate of soda, when injected into the circulation of a dog, stimulated the secretion of bile remarkably within ten minutes.

Desnos (*Centralbl. f. klin. Med.*, 1886, No. 26) has investigated the action of certain cholagogues. He found that *baptisine* (dose, $1\frac{1}{2}$ to $4\frac{1}{2}$ grains) and *juglandine* ($1\frac{1}{2}$ to 3 grains) were very efficient, but the latter sometimes caused dysenteric stools. The most satisfactory he found to be *phytolaccine* ($1\frac{1}{2}$ to 3 grains), which produced copious and easy motions. *Sanguinasine* he found to be inoperative in doses of as much as 9 grains.

The treatment of *gall-stones* by *Durand's mixture* (sulphuric ether and oil of turpentine) has been subjected to accurate experimental examination by Lewaschew (*Wiener med. Blätter*, Oct. 22, 1885). He finds that both the elements contained in the drug render the biliary secretion thinner and more copious, but the effect is not so permanent or agreeable as that of salicylate of soda.

13. Catarrhal jaundice.

Krull (*Dublin Journ. of Med. Science*, 1886, vol. i., p. 557) treats catarrhal jaundice most efficiently by injections of water into the bowel. The first injection of one or two quarts, at a temperature of 59° F., is thrown in gently, and retained as long as possible. A similar enema is given every morning, the temperature being gradually increased to 71.6° F., but never beyond this. In no instance have more than seven injections been necessary, and a cure is usually accomplished by the fourth day. This method has been efficacious in cases which have resisted all other methods of treatment. No other medicine is given, and the diet is restricted to vegetables. Löwenthal has used the method in forty-one cases, injecting water at a lower temperature than that used by Krull, and absolutely confirms the latter's observations.

14. Treatment of obesity.

Mayer (*Deutsche med. Woch.*, 1886, Nos. 10—13) criticises the modern methods of treating obesity. The Banting method, consisting, as is well known, of diminution in the quantity of fat and hydro-carbons, while the albuminous matters constitute the main

bulk of the food, is certainly efficacious in reducing the fat of the body, but is prone to cause headache, sleeplessness, and general weakness. Ebstein, on the other hand, allows fat, and reduces the hydro-carbons. His diet is albumen 102 grammes, fat 85 grammes, hydro-carbons 47 grammes per day. This method also is sometimes successful, but the amount of albumen in the food is not sufficient to maintain the strength. Oertel relies upon a limitation of the quantity of liquids to a daily amount of 562 grammes, and gives more albumen. At the same time, the patient takes active exercise and vapour baths. This treatment may be continued until the urine deposits urates very shortly after being voided, or until great dyspnœa is induced by exertion. All these methods must be used continuously for years. A more satisfactory plan, according to Mayer, is the treatment by mineral waters, such as those of Carlsbad and Marienbad. The efficient ingredients seem to be common salt and Glauber's salt.

Robin (*Gaz. Méd. de Paris*, Jan. 30 and Feb. 6, 1886) attacks this subject from what is apparently a more positive standpoint. Following Genth, he shows that the imbibition of a large quantity of water increases the amount of urea in the urine, but not that of the other solid matters, or, in other words, it promotes oxidation without increasing disintegration. Robin then establishes, as a "co-efficient of oxidation," the proportion which urea bears to the solid matters of the urine taken as a whole. Two distinct varieties of obese persons may be distinguished—those who have become so from increased assimilation, and in whom the amount of urea eliminated is therefore increased, and those whose obesity is due to diminished disintegration, and in whom the excreted urea is diminished. The value of the "co-efficient of oxidation" mentioned above, is seen in those cases where the actual amount of urea excreted is normal, but its relative amount to the other solid matters of the urine, that is, the "co-efficient of oxidation," is either increased or diminished, showing, therefore, increased assimilation or deficient disintegration. Water increases the power of digestion, and must, therefore, be restricted to those who have a high "co-efficient of oxidation;" administered freely, on the other hand, to those in whom this ratio is low. In three cases in which he applied this method, M. Robin has obtained excellent results.

Oertel (*London Med. Record*, 1886, p. 3) advocates a method which he has adopted in his own case with success, and which is based on the teaching of Pettenkofer and Voit. The principle of the treatment is a limitation of the amount of fluid in the food, and the systematic exercise of the muscles, especially of the heart.

Oertel reduces the total weight of solid food by about one-half, and the water still more. As regards the proportions of the ingredients in the solid food, the Banting system is followed in reducing the fatty matters and carbo-hydrates, while the albumen is increased. At first the patient complains of great thirst, but this soon subsides, the limbs are used more freely, and the heart's action is less feeble. The next procedure is a course of exercise in walking, at first on level ground and then on gradients; here great care is requisite, for dyspnoea and palpitation are prone to come on. The patient is allowed to stand still occasionally, but on no account to sit down until the day's distance is accomplished. (A complete dietary will be found in the *London Med. Record*.) Some relaxation of the diet may be made in special cases.

Anyel (*London Med. Record*, 1886, p. 305) does not approve of Oertel's plan of reducing so much the amount of fluid. He does not permit his patients to drink much at dinner, but an hour afterwards he allows fluids in considerable quantities. He finds that in many patients the absence of fluids is very weakening, and, therefore, in cases where there is disorder of circulation, or secondary kidney-disease, he allows a large amount of milk.

Germain Sée (*Progrès Médical*, Oct., 1885), in treating obesity, recommends the use of nitrogenous foods, together with 1,000 to 1,200 grains of fatty food per day. He does not limit the fluids imbibed, since, as he believes, they serve to promote combus-tive processes. He discourages diaphoresis, and does not recommend treatment by either alkalies or iodides. Purgatives, on the other hand, he considers to be beneficial, especially given as the mineral waters of Carlsbad, Vichy, Marienbad, &c. When there is fatty heart, however, M. Sée considers it inadvisable to give the mineral waters, or to recommend hydro-therapeutics. For such a condition he prescribes milk, cardiac tonics, and iodides, as he would for cardiac asthma, and insists that exercise should be taken only very guardedly.

[In all cases where treatment is directed to reducing obesity, care should be taken to insure a varied diet. It is found that by discarding certain ordinary articles of diet, the patient loses his appetite for them, as well as the power of readily digesting them afterwards. It is well, then, merely to reduce the fatty, amylaceous, and aqueous matters.—D. D.]

15. Diarrhoea in children.

Braithwaite (*Brit. Med. Journal*, 1886, vol. ii., p. 213) calls attention to the diarrhoea which is prone to occur in children after weaning, and from that period to four or five years of age, and in which the motions are horribly offensive. Suggesting

that the affection may be due to bacterial action in the intestine, he recommends the following prescription :—

R Ferri sulphat., gr. xx.
Sodæ salicylat., gr. xx.
Glycerine, 3 iij.
Aquam ad. 3 iij.

3j. every hour, and a small dose of castor oil occasionally.

Salicylate of soda has also been recommended in Infantile diarrhœa by Dr. Shank (*Archives of Pediatrics*, July, 1886).

Dr. Millard (*Brit. Med. Journal*, 1886, vol. ii., p. 213), in the same class of cases, gives liq. hyd. perchlor., 5 to 10 minim doses every hour or two.

16. Summer diarrhœa.

Dr. Musser (*Therapeutic Gazette*, and *Brit. Med. Journal*, 1886, vol. ii., p. 425) recommends small, frequently repeated doses of calomel combined with Dover's powder. He gives $\frac{1}{8}$ to $\frac{1}{10}$ of a grain of calomel, with $\frac{1}{12}$ to $\frac{1}{4}$ of a grain of Dover's powder, every half hour, as a minute powder to be washed down with water.

Dr. T. C. Smith (*Brit. Med. Journal*, 1886, vol. ii., p. 420) has used with effect a drachm of saturated solution of common salt in cider-vinegar, three times a day.

[In practice these methods will almost certainly fail to be carried out. The little patients simply refuse to swallow the doses, and their parents or nurses cannot induce them to do so.—D. D.]

17. Diarrhœa.

Dujardin-Beaumetz (*Progrès Médical*, August 1, 1885) recommends bi-sulphide of carbon in diarrhœa, believing that it acts as an antiseptic, and he finds it of special benefit in enteric fever. He gives the following formula :—

Bisulphide of carbon	...	...	...	25 grammes.
Essence of mint	...	...	...	50 drops.
Water ...	...	...	...	500 grammes.

Place the mixture in a vessel 700 ccm. measurement, shake and allow to stand until no more deposit is thrown down. Four to ten tablespoonfuls of the mixture may be taken in the day, and may be given in milk. When any of the fluid is drawn off, water must be added in like quantity to the remainder.

In chronic diarrhœa, Hasenclever and Michaelis (*Deutsche med. Wochenschr.*, Oct. 1, 1885) have obtained good results from the administration of "acorn-cocoa." This consists of cocoa-powder, roasted acorns, with a little sugar and roasted meal. One or two

teaspoonfuls are to be stirred in a small cupful of cold water, then boiled, and administered three times daily.

18. Treatment of cholera.

Roulli re (*Lond. Med. Record*, 1885, p. 484) has treated fifty-five cholera patients, in the last stage of collapse, by transfusion of serum, injecting from 1.5 to 2 grammes. The treatment in some cases produced temporary improvement, but in the majority of cases did no further good.

19. Dysentery.

Boisseau du Rocher (*Progr s M d.*, 1886, No. 10) has used ergot in dysentery with excellent effect, after other remedies have failed.

20. Capsicum in gastro-intestinal affections.

Torres, of Peru (*Lancet*, 1885, vol. ii., p. 733), has used capsicum successfully in many gastro-intestinal affections, such as chronic dysentery, piles, vomiting, anorexia, &c.

[This was much in vogue twenty-five or thirty years ago.—D. D.]

21. Feeding by rectum.

Dr. Mickle (*Pract.*, Dec., 1885, p. 407) reviews the conditions in which rectal feeding is desirable, and strongly recommends it in most cases in preference to feeding by the nasal tube. The latter, he believes, is very prone to cause vomiting, and, in addition to the loss of food which this entails, a further objection is urged, in that the act of vomiting may be dangerous to some patients suffering from apoplexy or paralysis. As material for rectal injection, it is insisted that already-digested food should be used, or that at least a peptonising fluid should be injected at the same time, as recommended by Sir Wm. Roberts. Dr. Mickle prefers to inject milk already peptonised.

[It is contrary to our experience that feeding by nose is apt to cause vomiting. The great objection to rectal feeding is the small amount that can be retained.—D. D.]

22. Tube-feeding.

Bullar (*Pract.*, Oct., 1885, p. 263) recommends that the well-known method of feeding by the tube passed down the nose into the stomach should be practised in the after-treatment of *tracheotomy*, and in other cases of imperfect and painful swallowing, as in diphtheritic pharyngitis and paralysis. Even in children, he asserts that the operation is neither difficult nor painful, and it insures that the whole of the food is passed into the stomach, and not into the air-passages.

23. Perforative peritonitis.

Wagner (*Deutsches Archiv f. klin. Med.*, Bd. xxxix., p. 70) relates a case of apparently hopeless perforation of the intestine, in

which the peritoneum became distended with gas, but cure was effected by draining the peritoneal cavity.

The patient, aged seventeen years, had suffered for about a fortnight from heaviness, headache, and pain in the throat. He then complained of pain in the abdomen, had no vomiting, but severe diarrhoea, and painful micturition. On admission, the temperature was 102°, tongue coated, throat normal, but the glands of the neck enlarged. There was dyspnoea, the breathing being mainly costal, the diaphragm stood about 2 cm. higher than normal, and there was no liver dulness. The abdomen was greatly distended and very tender, especially in the ileo-cæcal region. Over the whole abdomen there was a marked tympanitic note, somewhat less resonant, however, in the ileo-cæcal area. The right leg was less movable than the left, and movement caused pain in the knee and hip. Vomiting occurred once, the vomit being sero-bilious. There was no discharge of fæces or wind *per anum*. No peristaltic action of the intestines could be perceived or heard. The abdomen gradually became more and more distended, until the diaphragm reached the fourth rib, and the action of the heart and lungs was greatly interfered with. The abdomen was now punctured with a fine trochar above the umbilicus, and a quantity of gas smelling of sulphuretted hydrogen, and also some drops of thin and apparently fæculent fluid, were exuded. There was some improvement after this, but soon the urgent symptoms returned.

Thiersch now made an incision in the linea alba, 6 cm. in length, and through this gave vent to a quantity of gas and about 2.700 ccm. of fæculent, brown fluid containing clots of purulent lymph and portions of food. It was evident that the fluid issued from the cavity of the peritoneum. The cavity was washed out with salicylic water and a drainage-tube inserted. Through the tube fæculent matter was discharged for some days, and with it portions of food, which seemed to collect in a small pouch to the left of the umbilicus. The peritoneal cavity was washed out daily. Symptoms of collapse appeared on several occasions, but the patient finally made a good recovery. The fistula healed in six months, defæcation became normal, and the patient was finally restored to his usual health. It was throughout uncertain where the perforation of the intestine was situated. Thiersch was inclined to think it due to an ulceration from anthrax. Wagner thought it was caused by a foreign body perforating the intestine, but could not exclude enteric fever.

Wagner asserts that the most reliable sign of gas in the peritoneal cavity is the entire absence of intestinal movement, either

to the eye, ear, or touch. The other symptoms which have been found are due, some to peritonitis, some to the presence of air in the peritoneum. They are the following:—

1. Distension of the abdomen.
2. Percussion-note tympanitic and equally resonant in all parts, unless fluid is present.
3. After a few hours the presence of fluid in the low-lying parts of the peritoneum.
4. When such fluid is present, the dulness due to it varies in situation, according to the position of the patient.
5. The absence of liver-dulness.

All these are, according to Wagner, more or less unreliable.

Mikulicz (*Volckmann's Sammlung klinischer Vorträge*, No. 262, published Dec. 28, 1885) has operated on several cases of acute suppurative peritonitis, and amongst others on one case due to perforation of the intestine. He operated three days after the perforation, and yet the result was most favourable.

Krönlein (*Archiv f. klin. Chirurgie*, Bd. xxxiii., p. 507) relates three cases in which he operated for peritonitis; one case recovered, but the peritonitis was not due to perforation. His first case was due to perforation of the vermiform appendix, and at the operation he resected the appendix; death, however, resulted in two days.

24. Permanent drainage in ascites.

Caillé (*New York Med. Journ.*, Feb. 27, 1886) has drained the peritoneum in two cases of cirrhosis of the liver when ascites had returned rapidly after a previous paracentesis. The ascites quickly disappeared, and the wound in the abdomen healed. The other symptoms diminished so much in severity, that one patient was able to work for nine months. Both died from failure of the heart, and in one an autopsy showed but little fluid in the abdomen, and very slight inflammatory action at the site of puncture. It is very difficult to see how, in spite of these two favourable results, one could always insure an antiseptic condition of the wound and of the peritoneal cavity, were such a treatment adopted as that described above.

DISEASES OF THE KIDNEY, DIABETES, ETC.

By CHARLES HENRY RALFE, M.D. CANTAB., F.R.C.P.,

Assistant-Physician to the London Hospital.

1. Albuminuria.

Dr. G. Lentovsky (*Meditz. Pribavl. K' Morsk Sbm.*, Sept., 1885) gives an account of six cases of chronic nephritis treated with nitro-glycerine ($\frac{1}{100}$ grain) in tablets, four times daily, gradually increasing the number till the daily dose amounted to ten tablets. Both the absolute and relative amount of albumin in the urine was diminished, the quantity of urine was increased, the pulse became softer, and the body-weight increased. Last year we referred to the experience of Professor Rossbach and Dr. Burzhinski, with regard to the action of nitro-glycerine in chronic nephritis; my own observations during the past year tend to confirm the favourable opinion I then expressed as to its utility, especially for the relief of chronic uræmic symptoms, such as renal asthma, headache, and nausea.

B. J. Stokvis (*Centralbl. f. klin. Med.*, 1886, No. 20) expresses an opinion that eggs need not be cut off from the dietary of patients suffering from albuminuria, so long as they are given with other food. He has found that he can take sixty-five raw eggs in five days, along with other food, without albumin appearing in his urine. The instances, in which albuminuria has occurred after the excessive use of eggs, have always happened when they have been used exclusively; the result being that, owing to their insipidity, gastric juice is not secreted in sufficient abundance, and, consequently, undigested albumin passes into the circulation and out through the urine. With a mixed diet, however, gastric digestion is more completely performed, and the white of egg is completely converted into peptones, and, therefore, does not act injuriously. Stokvis seems to have overlooked the chief objection to the use of eggs in the dietary of persons suffering from organic albuminuria, viz., their high nitrogenous constitution, which renders their use inadvisable when we desire to give physiological rest by diminishing nitrogenous excretion.

Dr. A. P. Trubatcheff (*Vratch*, 1885, No. 46) has observed the effect of either a mixed or pure milk diet on four patients suffering from albuminuria, three cases suffering from chronic nephritis, and one from interstitial. The patients were first placed on ordinary hospital diet, and then, after the character of the urinary excretion had been studied, were placed on a milk diet. The results were loss of weight, no marked effect on the dropsy, nor on the excretion of the urine, whilst the amount of albumin was invariably increased. In the "Year-Book" for 1884, attention was drawn to Dr. G. Johnson's and Dr. Embleton's statements with regard to effect of a milk diet in chronic nephritis, and I expressed an opinion that the best results would be obtained in the purely interstitial form associated with cardiac hypertrophy and high arterial tension. Dr. Trubatcheff's cases, with a solitary exception, seem to have been more of the subacute type than the interstitial, and with cases of this character I have failed to get any good results from an exclusive milk diet. In one case, in which the patient had been ill for six months, the milk diet had decidedly bad results, the dropsy not diminishing, whilst the albumin was considerably increased; she improved rapidly, however, when the milk diet was exchanged for nearly a purely farinaceous one. In a case, however, of interstitial nephritis in a gentleman, aged sixty-four, the adoption of milk diet diminished the polyuria, the albuminuria disappeared, and the tension of the pulse considerably decreased.

Dr. C. W. Purdy (*Bright's Disease and Allied Affections of the Kidney*, 1886) states that the principles, which should govern the treatment of acute nephritis, should consist: (a) in securing, so far as possible, physiological rest to the inflamed organs; (b) in limiting the damage progressing in the kidneys, and overcoming the obstruction to the performance of their functions; (c) in protecting the system from the consequences of the disease. The first object is attained by keeping the patient strictly confined to bed between woollen blankets, a diet as nearly non-nitrogenous as possible being administered. The second indication is fulfilled by the cautious administration of dilute saline cathartics; whilst the urinary obstruction is best overcome by the administration of an alkaline solution, especially of the potassium salts, which renders the renal casts soluble. This is in accordance with Dr. Roberts's practice, who has stated that he has obtained the best results, in cases of acute Bright's disease, by the free administration of citrate of potassium, while in no instance where the urine has been rendered alkaline in the first week of the complaint, has he witnessed uræmic complications. The

third object is to be obtained by the adoption of hygienic measures, guarding against anything that may renew the tendency to renal congestion, such as extreme cold, improper diet, &c. ; as a prophylactic, iron is most useful. In interstitial nephritis, Dr. Purdy insists on the following general principles : (a) modifying those conditions, general and special, which seem to give rise to, or tend to aggravate the disease ; (b) protecting the system from the consequences of defective renal function ; (c) limiting the damage already caused by the disease, both in the kidneys and in the organism, and, so far as possible, restoring the latter to its former condition. Dr. Purdy combats the idea that *morphia*, properly administered, is dangerous in uræmic convulsions, and supports the views of Scanzoni and Loomis. He, however, limits the range of utility and safety of *morphia* in uræmia to the convulsive seizures ; it is improper in a state of coma, or of chronic uræmia unassociated with convulsions. The effect of *morphia* administered in small doses, $\frac{1}{8}$ to $\frac{1}{4}$ grain, is, first, to arrest the muscular spasms by counteracting the effect of the uræmic poison on the nerve centres ; secondly, to establish profuse diaphoresis ; thirdly, to facilitate the action of cathartics and diuretics, especially the diuretic action of digitalis.

Dr. J. W. Lazarus (*Wiener med. Presse*, Aug., 1885) has reported a case of acute renal congestion treated exclusively by means of the subcutaneous injection of *hydrochlorate of pilocarpine* ($\frac{1}{8}$ to $\frac{1}{4}$ grain). This drug should be used, however, with great care, and only, in my opinion, when there is great urgency. Its use is often followed by œdema of the lungs, and sometimes by severe cerebral symptoms.

Dr. Saundby, of Birmingham, read a paper on the *Influence of Drugs* in Albuminuria, at the Brighton Meeting of the *British Medical Association*, Aug., 1886. After careful trials of a large number of drugs, including all the reputed remedies at present in use, he believes that we do not possess in any one of them a drug which has the specific power of controlling the excretion of albumin by the kidneys. On the other hand, some drugs, *e.g.*, digitalis and its analogues, iron and other metals, increased the amount of albumin. His observations confirm the value of the practice of giving alkalies till the urine is alkaline (*vide supra*) in both acute and chronic Bright's disease, and he attaches some value to tannin, which he prescribes as follows :—

R.	Acidi tannici.				
	Sodæ bicarb.	...	...	...	aa gr. x.
	Glycerini	...	...	...	mxv.
	Aq. ad.	...	...	...	℥j. m. ft. Ht. t. d. s.

Dr. Robert Maguire, in a paper on "The Significance of Certain Forms of Albuminuria" (*Med. Chron.*, July, 1886), has shown that certain groups may be distinguished in the cases of so-called functional albuminuria. He believes that this condition is essentially one of disease, and requires treatment. Moreover, the treatment should vary according to the grouping of the symptoms. In pale, languid patients, having a pulse of low tension, no cardiac enlargement, and passing a urine of normal colour and specific gravity, not depositing uric acid or oxalates on standing, and containing a small amount of albumin—he considers it advisable to give general tonics. On the other hand, in another class of cases, where the patient is apparently in robust health, but has a pulse of high tension, with sometimes an increase in the cardiac area of dullness; where the urine is of normal or deepened colour, of normal or somewhat raised specific gravity, deposits uric acid or oxalates on standing, and contains a quantity of albumin, which may occasionally be large in amount—he would give alkalis and purgatives, if uric acid is present, and acids, if oxalates are deposited. A third division, which he makes, in order to contain those cases, sometimes described, of abnormal albumins in the urine, Dr. Maguire thinks, will, on close examination, contain but few cases. He recognises a class of albuminurias described by Dr. Broadbent, in which the patient is pale and languid, and has a pulse of high tension, and considers that these may sometimes result from neglect of the other cases he has described. These are to be treated by purgation. In another paper on "The Albumins of the Urine" (*Lancet*, June, 1886), Dr. Maguire has shown that, in cases of albuminuria, the relative amounts of constituent albumins, viz., serum albumin and serum globulin, may vary, and he has found in some cases of the first group of functional albuminurias he has described, that the whole of the albuminous matter present consisted of serum globuline, and contained no serum albumin. He considers it advisable, however, to study this subject further before drawing conclusions.

M. Dieulafoy (*Le Progrès Méd.*, Jan. 19, 1886) reports four cases of acute Bright's disease, which progressed for several months without the appearance of albumin in the urine. The symptoms were:—uræmic headache, anorexia, vomiting, bruit de gallop, dead finger, coldness of the extremities, especially the lower extremities down to the knees, slight œdema round the ankles. In these cases albumin only appeared a few days before death. In order to test the character of the disease, Dieulafoy recommends that the patient's urine be injected into the vein of a rabbit's ear; 50 cc. of normal urine per kilogramme of the rabbit's weight is sufficient to kill it,

whilst 150 cc. to 285 cc. are required if the patient is subject to latent Bright's disease. M. Dieulafoy's observation is an important one. There can now be no doubt that the pre-albuminic stage of interstitial nephritis is often a prolonged one, and marked by many of the symptoms described above, whilst it is by no means infrequent to find, post-mortem, granular kidneys in persons in whose urine during life no albumin could be detected. The early detection of the disease during the pre-albuminuric stage, either by the test advocated by Dieulafoy, or by ascertaining the actual amount of urea excreted in the twenty-four hours, which is pretty much the same thing, will enable the physician to arrest, or rather control, the progress of the disease by hygienic and therapeutic treatment.

Dr. Stevenson Thompson (*Med.-Chir. Soc. Trans.*, 1886), in a paper on "Scarlatinal Albuminuria and the Pre-Albuminuric Stage," remarks that he has not been able to satisfy himself that the action of purgatives is really specific in preventing the occurrence of albuminuria. Almost every case under his observation had castor oil administered every third day, so that the bowels were kept moderately free, and yet albuminuria occurred in a large proportion of cases. He thinks that one is very apt to be misled in regard to the efficacy of purgatives by the occurrence of what is not uncommon in scarlet fever, viz., the appearance of blood or albumin, for perhaps only a few hours, which disappears without any treatment whatever. If purgatives have been used in such cases, one is apt to refer to the action of the medicine, what is really part of the natural cause of the disease. Warmth and rest seem, after all, to be the most efficient guards against albuminuria after scarlet fever, though these frequently fail in their object. Dr. Stevenson kept his patients in bed for four weeks during the fever, and they were not allowed to leave the ward till a week later. The diet was confined to milk and farinacea during the first two or three weeks of the scarlatina, allowing beef-broth, &c., only when convalescence was established. Of 180 cases under treatment 112, or 63.2 per cent., showed signs of renal affection. In thirty cases, however, in which the milk and farinaceous diet was continued into the middle of the fifth week, nine, or about 27 per cent., showed signs of albuminuria; in most, these were slight, one only being a well-marked case of scarlatinal dropsy. Whether this diminished percentage of albuminuria was due to the mild nature of the diet, or to accident—all the cases having occurred in the early autumn—Dr. Thompson does not like to decide; but he does not care to try the converse of the experiment. The most effective treatment of scarlatinal

albuminuria, when it has set in, is by purgatives and cold packs. Convulsions are best combated by chloral and chloroform; but these agents can check only the more urgent symptoms, and afford time for more routine remedies. *Benzoic acid*, in large doses (20 grains every two hours), seems to have a powerful influence, at least in some cases, in preventing the occurrence of convulsions. Dr. Thompson is of opinion that there is no condition of the urine which justifies the use of the phrase "pre-albuminuric stage." If such a term is used at all, it should refer to the condition of the vascular system only. In this Dr. Thompson's observations have led him to a different conclusion to that arrived at by the late Dr. Mahomed, who maintained that there was a stage in acute nephritis characterised by increased vascular tension, and, as a result, the presence of blood crystalloids in the urine before albumin makes its appearance. Dr. Thompson shows that there is a stage, indeed, in which blood-pressure rises, but this seems to *exist indifferently* whether the case subsequently becomes one of albuminuria pure and simple, or of hæmaturia, and this, Dr. Thompson thinks, is sufficient to lead us to reject the theory that albuminuria in its earliest stage is to be accounted for by increase in blood-pressure alone, and that this stage is characterised by the presence of blood crystalloids. In some remarks on Dr. Mahomed's theory I objected ("Diseases of the Kidneys," p. 174, 1885) to his views, also on the ground, that there are many morbid conditions in which increased arterial tension is a marked feature in which albuminuria or hæmoglobinuria are absent.

2. Alkaloids in urine.

A. Villiers (*J. Pharm.* [5] 11, 246), contrary to the statements of Bouchard and Pouchet, finds that normal urine never contains alkaloids. He, however, has found alkaloids in the urines of patients suffering from slight bronchitis, pyrexia, measles, pneumonia, abscess in the head; in one case of tetanus he failed to obtain evidence of alkaloids.

3. Ammoniacal urine.

A. Müller (*Landw. Versuchs-Stat.*, 1885, 271—283), in a paper on the fermentation of urine, gives the results of the effects of various substances mixed with the urine, on ureal decomposition. As a rule, basic substances assisted, and acid compounds prevented fermentation, whilst neutral substances had their own specific action. Phosphoric acid had little influence, whilst sulphurous anhydride had the most effect. Potassium permanganate assisted fermentation, whilst potassium chlorate prevented it. Borax and boric acid were not found satisfactory. A. Rodriguez (*El Siglo Med.*, Oct., 1885) recommends an infusion of *pichi*

(*fabiana imbricata*), a shrub common in Chili and the Argentine Confederation, in cases of acute and chronic versical catarrh.

4. Diabetes.

E. Stadelmann (*Deutsches Archiv f. klin. Med.*, Oct., 1885), following up the view that diabetic coma is an "acid intoxication," proposes to treat this condition with intravenous injection of sodium carbonate. For this purpose he makes a 3—5 per cent. solution of sodium carbonate, with .5 per cent. of common salt; of this solution he suggests the injection of 20 grammes. This in a dog has no ill-effect, and always increases the alkalinity of the urine. He advocates intravenous injection, because the absorption of the salt by the mucous surface of the stomach and intestines is too slow, in cases when coma has developed; but as a prophylactic he recommends the administration of the salt with citric acid by the mouth. The formula he gives is:—Citric acid, ʒij.; sodium carbonate, ʒiv. fs.; glycerine, ʒij. p.; peppermint water to ʒviii.; this quantity to be taken twice a day as a drink. In a second communication to the same journal (Jan., 1886), Stadelmann advocates even larger doses than this, even to the amount of ʒij. fs. daily. He found this quantity well tolerated, with the exception of palpitation of the heart, whilst the general condition of the patient improved. The doctrine of "acid intoxication," being the proximate cause of diabetic coma, seems now to be generally adopted, and the experiments of Minkowski and Walter seem to have confirmed it. It should not be forgotten that this theory was originally suggested at the Debate on Diabetes at the Pathological Society, 1883, before these experiments were made; and also that Dr. Saundby suggested (*Bir. Med. Review*, Feb., 1885) the use of alkalies and intravenous injection before Stadelmann's paper appeared.

Dr. N. S. Davis (*Journal Amer. Med. Association*, May 8, 1886) has obtained good results with *arsenite of bromine*. In five cases, treated with the drug, a rapid and total disappearance of sugar from the urine took place, and in some a sufficiency of time has elapsed for him to consider that a permanent cure had been effected. He administers the arsenite in from 3 to 5 minim doses, thrice daily, placing the patient on strictly diabetic diet, and he continues the drug for some considerable time after all traces of sugar have disappeared from the urine. The use of arsenite of bromine has found greater favour in America and France than in Germany and England. It appears most serviceable in early stages of neurogenic diabetes, and least so in the constitutional, in which salicylic acid is found more beneficial. In a case sent me by Mr. W. Meredith, a young American

became diabetic after exposure to the sun whilst rowing a boat race at Harvard; he came to Europe shortly after, and after three weeks' treatment of bromide of arsenic, the sugar disappeared entirely, though the diet was not absolutely restricted. He has since returned to America, and a relapse has not occurred, though more than a year has elapsed.

Dr. Holden (*Brit. Med. Journal*, May 1, 1886) reports six cases of glycosuria of rheumatic character, in which salicylate of soda produced a considerable reduction in the excretion of urine, and entirely removed the sugar. The use of the salicylates are especially indicated, as far as my experience goes, in all cases of diabetes of constitutional origin, especially those cases in which an excess of uric acid can be demonstrated, but is of little value in the neurogenic. Professor Latham, in the Croonian Lectures of 1886 (*Lancet*, April 3, 10, 17), gives a satisfactory explanation as the probable mode of action of salicylic acid in these cases.

Professor Hoffmann (*Trans. Internat. Med. Congress, Wiesbaden*, 18 6), in the discussion on diabetes, stated his belief that the disease existed in two forms, the *neurogenic* and *fatty*. The former, which was usually accidental, is characterised by the non-development of fat, absence of boils and carbuncles, rarity of cataract, and the very slight tendency to albuminuria. This form, if treated early, is capable of cure; but if neglected, usually runs a rapid course, and the patients seldom survive more than three years. The fatty form, which is usually constitutional, is distinguished by the tendency to boils and carbuncles, and also to gout and nephritis. Cures may also take place here, but, unlike the neurogenic form, they occur in the latter stage when gout or albuminuria may take the place of diabetes. Although the fatty form is usually associated with a constitutional tendency, still this is not always the case, as there are many constitutional diabetics who are never fat, and sometimes a neurogenic patient who may chance to be obese. Hoffmann divides the remedies into constitutional and specific. Among the first are cod-liver oil, treatment at Carlsbad and other health-resorts, alcohol, koumiss, &c. Of specifics, he only speaks of opium and salicylic acid; opium he would give again and again; salicylic acid, he states, is especially useful in the early stages. Dr. B. J. Stokvis, at the same debate, insisted on the complete withdrawal of carbohydrates in the treatment of diabetes, and that milk is to be avoided, albumin and fat being solely relied on. Strict diet stops the sugar, though the experiment in some cases is dangerous, and must be watched carefully when being carried out. Exercise is

useful in fat subjects, especially those excreting much uric acid, though exceptions must be made in cases of weak heart. Mental rest is of great importance. Dr. Schnee pointed out the relation that syphilis, hereditary or acquired, bears to the development of diabetes, and advises on suspicion of such a taint anti-syphilitic treatment, and the promotion of tissue changes by means of warm baths and massage. Strict diet must always be enforced. Dr. Finkler, of Bonn, stated that he had carried out *massage* in thirteen cases of diabetes with decided effect, both on the amount of sugar excreted and on the health of the patient. On an average the sugar excreted in twenty-four hours, diminished from over 400 to 120. Muscular energy was increased, weight increased, thirst lessened. In one case sugar vanished and remained absent three months after massage was left off. These results were arrived at under a mixed diet. Dr. Mering, Strasburg, approved of muscular exertion as it made a difference, whether the kidneys are relieved of the excretion of sugar to some extent, by its being burnt off the body, whilst warmth is produced, the muscles strengthened, and vitality improved.

5. Diuretics.

F. Spiller Locke (*Practit.*, Sept., 1886) contributes a paper on the "Diuretic Action of Mercury." He observes that it has long been known that the action of squill and digitalis as diuretics is greatly assisted by the addition to them of a little mercury. The part thus played by the mercury has hitherto been never satisfactorily explained, though the recent work of Noel Paton (*British Medical Journal*, July 30, 1886), on the connection between bile secretion and the formation of urea, seems to afford a clue. According to Dr. Paton, the increase of the bile secretion and of urea is due to the hæmolytic action of the mercury on the blood cells; and since, as is well known, an increased quantity of urea in the blood acts as a powerful diuretic, the good effects derived from the use of mercury, in combination with squill and digitalis, may be explained by its action on the blood corpuscles. Jendrassik (*Deutsches Arch. f. klin. Med.*, April, 1886) has also drawn attention to "Calomel as a Diuretic." The improvement which followed in a case of cardiac dropsy, in which a syphilitic taint existed, led him to a further trial, and in six out of seven cases the results were favourable. He gives the calomel, in doses of 3 to 4 grains, with an equal quantity of jalap, twice and even four times daily. The quantity of urine passed is often enormous, over 300 ozs. being passed in one case in the twenty-four hours. The diuresis depends, however, chiefly on the quantity of calomel and the amount of dropsical fluid to

be drained off. The diuresis generally commenced on the second or third day, reaching a maximum about the second day of its commencement. The best results were generally obtained when some signs of mercurialism were noticed. If the dropsy be entirely removed, or if but little remain, after the full action of the drug, a few days should be allowed to elapse before again employing it. After a rest, or if the dropsy return, it can be again employed with effect. In healthy persons, calomel does not seem to cause diuresis. Mr. Locke, commenting on Jendrassik's paper, thinks the diuretic action of the calomel must be attributed either to the drug containing a trace of per-salt, or to its being converted, to a slight extent, into a per-salt in the alimentary canal, since Rutherford has shown that calomel causes no increased secretion of bile. Mr. Locke also thinks that the powerful action of "Guy's" pill is due to the conversion of a portion of the mercury into a per-salt in either of the modes above suggested.

J. M. Da Costa and C. B. Penrose (*Medical News*, June 19, 1886) have investigated the diuretic effects of cocaine. Eight cases were made the subject of observation; of these, five were free from organic mischief, and three were cases of chronic Bright's disease. In only one of these eight was the urine not increased in quantity by the action of the drug, which was administered twice or thrice daily, in doses of $\frac{1}{2}$ to 1 grain, either by the mouth or hypodermically. In four of the cases, which were free from organic disease, the urine rose on the first day to about double the normal amount, and remained at this point till the cocaine was discontinued, when it at once fell to the usual point. The specific gravity was not affected by the increased diuresis. In the three cases of Bright's disease, the albuminuria was not diminished with the diuresis; if anything, it was increased. In the case in which the cocaine failed as a diuretic, the amount of urine fell on the first day from 48 ozs. to 32 ozs., and on the second day to 20 ozs.; the specific gravity, however, rose from 1020 to 1025. The authors believe that the diuresis is occasioned by increased arterial tension, but that there is also some special action on the renal cells is manifest by the increased excretion of solid matter. They suggest that the failure of the drug in the one case was due to too great arterial tension, causing a reverse effect. Dr. A. H. Smith (*Lancet*, March 13, 1886) has recently described before the Academy of New York the diuretic effects produced by *apocymum canabium*. In one case of renal disease with scanty urine, and threatening of uræmia, the apocymum excited profuse diuresis, and the danger was averted. Another case was one of general anasarca, ascites, and œdematous lungs. All diuretics had failed, but as a last

resource the apocymum was tried, with the result of raising the urinary secretion from 6 and 12 ozs. to 30 ozs. One case failed, probably owing to a bad selection of the drug. As such a powerful diuretic, as the apocymum is alleged to be, would be most useful in practice, I have requested Mr. Martindale to secure a supply of the drug for the purpose of testing its merits.

6. Hæmoglobinuria.

Dr. Ralfe, in a paper read at Brighton *Brit. Med. Assoc.*, in August (*Lancet*, Oct. 23, 1886), suggests that some forms of functional albuminuria are allied to hæmoglobinuria, only that the blood crystalloids do not appear in the urine, but instead the blood-colouring matter is converted in the liver into urea and urobilin, both of which, Dr. Ralfe states, are found in excess in the urine in these cases. He believes that these cases of functional albuminuria depend upon increased irritability of the vasomotor centre, and the formation of corpuscles unable to withstand ordinary disintegration influences. Hence the tendency to increased hæmolysis. The treatment he advises for this form of albuminuria is iron and quinine, with a view of diminishing the nervous irritability, and arsenic to give stability to the blood corpuscles. This paper is interesting in connection with one read at the same time by Dr. Oliver, of Newcastle, "On Urea, its Sources, and Relations to certain Morbid Processes," in which he contends that in many states of the system the red corpuscles undergo disintegration in the liver. The colouring matter of the hæmoglobin was changed into bilirubin, and subsequently into urobilin, whilst the remainder of the protoplasm of the blood cells was converted into urea; and he showed that in diseased conditions in which anæmia was slowly developed, owing to the smaller number of blood corpuscles than in health, the daily discharge of urea was small, but that where the anæmia was quickly progressive, the disappearance of blood cells was always followed by a marked rise of the daily excretion of urea. Again, the observations of Dr. Ralfe and Dr. Oliver are important in connection with the experiments of Dr. Noel Paton (*Brit. Med. Jour.*, July 30, 1886), in which he showed that certain agents cause an increase of urea and urinary pigment in the urine, an increase which is due to the hæmolytic action of these agents on the blood cells. (See s. 5, *Diuretics*.)

7. Hæmaturia.

Dr. Samuel West (*London Med. Record*, Sept. 15, 1886) draws attention to the occasional severe renal hæmorrhage that sometimes occurs in advanced cases of granular kidney, and which, except in connection with hæmorrhages from the mucous surfaces

generally, has not attracted the attention of writers on renal pathology as it should. Dr. West shows how important it is in reference to treatment, as in one case the hæmaturia was considered due to calculus, and an operation was under consideration when the right diagnosis was established. The subject is one deserving of consideration, and it is strange so little attention has hitherto been drawn to it.

8. Phosphaturia.

A. Ott (*Zeitschr. f. physiol. Chemie*, Bd. x., 1—10) gives a series of analyses showing the relative quantities of phosphoric acid present in urine, combined in the form of acid and normal salts respectively. He finds that for the total twenty-four hours' urine, the proportion of normal to acid phosphates is a 69:100; in the morning urine, 58:100; evening urine, 91:100; night urine, 56:100. The high proportion of normal phosphates in the evening urine establishes the fact of the relation between the food taken and the amount of phosphates in the urine.

RHEUMATISM AND GOUT.

BY ROBERT MAGUIRE, M.D., M.R.C.P.,

Physician to Out-Patients and Joint Lecturer on Pathology, St. Mary's Hospital.

I. Rheumatic fever.

During the past year attention has been mainly directed to a further investigation of remedies formerly known, with reference to their modes of action and the circumstances counter-indicating their use.

Antipyrine.—Neumann (*Berliner klin. Woch.*, 1885, No. 37) finds that this drug acts in acute rheumatism in the same way as salicylate of soda. It will promptly reduce the temperature and relieve the joint affection; but with either of the two remedies there is the same tendency to complications, and Neumann also notes the frequent occurrence of relapses, and sometimes troublesome remnants of the acute process. Antipyrine, however, has the advantage of not producing poisonous effects, and may, therefore, be used when salicylate of soda cannot be borne.

Lenhartz (*Charité-Annalen*, 1885, p. 248) has also investigated the action of antipyrine on twenty-four cases of acute rheumatism occurring in Leyden's clinique. The drug was given in 15 grain doses hourly. He finds that its action very much resembles that of salicylate of soda, but that it may be given when the latter drug has failed, or is prohibited by a weak state of the heart, or by cerebral symptoms. Complications and the tendency to relapses seem to be equally as frequent after the use of either of the drugs.

Klomyakoff and L'Voff (*Vratch*, and *Lancet*, 1886, vol. i., p. 223) have found antipyrine, in 15 to 20 grain doses four times a day, of great use in acute rheumatism, muscular rheumatism, and rheumatic neuralgia. It succeeded in some cases when salicylate of soda failed.

It would appear, therefore, from these observations, that antipyrine has something more than a mere antipyretic action in rheumatic fever, and is to a certain extent antidotal. It will be

remembered, however, that the antidotal action of salicylate of soda has been greatly questioned (*see* "Year-Book" for 1885, p. 78). In the above papers also, it is shown that relapses and complications are very frequent after the use of antipyrine or salicylate of soda. There is, moreover, a great danger that a patient, relieved of his pyrexia and pain in the joints, should consider himself well, and neglect treatment. Whether our new remedies are antidotal or not, it is extremely improbable that they cure the disease in the same short period required to relieve the symptoms. In many cases, especially in hospital practice, the treatment is dropped by the patient as soon as the troublesome symptoms disappear, but the major part of the *materies morbi* remains. It may happen that this peccant matter, whatever it may be, is removed by nature without further mishap; but the patient is meanwhile in a condition which makes it extremely probable that a slight chill or exertion may bring on a relapse, and which gives opportunity for the onset of complications, latent in course, but permanent and dangerous when neglected. The slower action of the older potash treatment in relieving the symptoms, an action now placed beyond doubt, is in this sense an actual safeguard to the patient, preventing him from neglecting the disease itself, until it is completely removed. The new remedies are not on this account to be disparaged, but care must be taken not to mistake relief for cure.

Salol.—Salicylate of soda, it is well known, sometimes produces severe gastric irritation, and frequently is objected to by patients on account of its mawkish sweet taste. *Salol*, a new remedy, may on this ground be of use as a substitute. It was prepared by Nencki, of Berne (*British Med. Journal*, 1886, vol. ii., p. 430), about three years ago, and is chemically a salicylate of phenol. It remains intact in the stomach, but in the duodenum splits up into phenol and salicylic acid. It is colourless and tasteless. Dr. Sahli, of Berne, has recently given it in rheumatism and rheumatic affections with good effect. The dose administered was 30 grains to an adult, or 7 grains to a child aged six, repeated three or four times a day.

The physiological action is the same as that of salicylate of soda, the phenol liberated in the duodenum apparently producing no symptoms beyond sometimes a discoloration of the urine.

I have used the drug with good effect, but as yet in too few cases to form any opinion as to its therapeutic advantages. Pharmaceutically, however, it is a useful addition to our *répertoire*. It may be remarked that *salol* is insoluble in water, and if given in a mixture must be suspended with mucilage.

Salicylate of Lithia.—M. Vulpian (*L'Union Médicale*, Dec. 10, 1885) has investigated the action of *salicylate of lithia* in various forms of rheumatism and gout. In acute attacks of gout and in acute articular rheumatism, the salicylate of lithia seems to act in a similar manner to the soda salt. In cases of acute rheumatism, where the fibrous tissues are most attacked, the lithia salt is the more effective, while in subacute and chronic articular rheumatism markedly favourable results were obtained. The maximum dose to be given is 75 grains daily, but a smaller dose is commonly sufficient. The physiological effects are less distressing than those of the soda salt.

Nitrate of Potash.—Grinevitski (*Russkaya Meditsina*, and *Lancet*, 1886, vol. i., p. 984) treats acute articular rheumatism with nitrate of potash, a dose every two hours, two drachms being given during the day. Every morning and evening he applies to the painful parts an ointment of the following composition:—

Olei hyoscy.	...	...	3j.
Ung. hydrarg. cinerei	...	...	3ij.
Ext. aconiti	...	...	3j.

He finds this treatment very efficacious.

2. Complications of acute rheumatism.

Grimm (*Centralbl. f. med. Wissen.*, 1886, p. 600) describes two cases in which somewhat unusual complications occurred in acute rheumatism. In one patient, aged twenty-eight, after the rheumatism had been relieved, and when there was no fever or heart affection, a form of "folie musculaire" set in, evidenced by most powerful chorëic movements. At the same time, mental symptoms with hallucinations and stupor, were manifest. Cure was effected, under the influence of bromide of potassium, in four weeks. Grimm believes that the mental disorder was caused by inanition, and the chorea by capillary embolisms of micro-organisms. In the second case, when the joint affection had disappeared, there occurred furious delirium, collapse, coma, and hyper-pyrexia, which again were attributed to sudden proliferation of organisms in the blood-vessels.

3. Congenital rheumatism.

Schäfer (*Berl. klin. Wochenschr.*, 1886, No. 5) records a case in which a woman was attacked by acute rheumatism four days before the end of her pregnancy, and the affection lasted until five weeks after parturition. The child also suffered, on the third day after its birth, from high temperature and painful swelling of the joints, which seemed to be due to acute rheumatism. Schäfer hence believes that this disorder is an acute infectious

disease, and that it has an incubation period varying from four to seven days.

4. Rheumatic neuralgia.

Immermann (*Centralbl. f. med. Wissen.*, 1886, p. 399) remarks upon the fact that neuralgia of the fifth nerve occurs as a manifestation of acute rheumatism, just as in intermittent fever, and is relieved by salicylate of soda or antipyrine.

5. Gonorrhœal rheumatism.

Loeb (*D. Arch. f. klin. Med.*, Dec., 1885) discusses several points in the pathology of gonorrhœal rheumatism, which are not without a bearing upon its treatment. He is of opinion that gonorrhœa is complicated by rheumatism only when the posterior parts of the urethra are attacked; in favour of this view being the fact, that rheumatism seldom occurs in the early stages of gonorrhœa, and in most cases only after several attacks, when the posterior parts of the urethra are most likely to be involved. It is, hence, highly important that, in treating the rheumatism, one should as quickly as possible cure the inflammation in the urethra, and especially in its posterior parts.

Loeb believes that acute rheumatism and gonorrhœal rheumatism are entirely different diseases, because, as he asserts:—

1. Gonorrhœal rheumatism is accompanied by but slight, if any, fever.

2. Gonorrhœal rheumatism runs a markedly shorter course.

3. It is much less erratic in character than ordinary rheumatism.

4. Gonorrhœal rheumatism is frequently associated with inflammation in the eyes; this occurring without contagion. With regard to this peculiar gonorrhœal conjunctivitis, a further communication is found below.

5. The heart is less frequently implicated in gonorrhœal rheumatism.

6. The tendon-sheaths and synovial sacs show a greater tendency to become affected in gonorrhœal rheumatism.

7. Gonorrhœal rheumatism does not yield to salicylates, as does the simple form. (*See Fraser, "Year-Book" for 1885, p. 79.*)

Loeb believes that gonorrhœal rheumatism is an infectious process, the seat of infection being the hinder part of the urethra, and the means of infection being probably a non-specific organism.

It may be mentioned in this connection that Petrone (*Spallanzani*, 1885, vols. x. and xi.) has found gonococci in the blood of patients suffering from gonorrhœal rheumatism.

Professor Fournier, of the St. Louis (*Lancet*, 1886, vol. i., p. 175),

considers that a form of conjunctivitis occurs in gonorrhœa which is not due to local infection, and is distinct and pathognomonic, differing markedly from that produced by contact with infected pus. This form of gonorrhœal ophthalmia is very frequently associated with gonorrhœal rheumatism. The disease is sometimes an aquo-capsulitis, sometimes an iritis, and sometimes a conjunctivitis. The eye is red and vascular, and when the conjunctiva is affected there is an œdematous infiltration, which forms a sort of pad round the corneal margin. The affection produces hardly any subjective sensations, no pain, no photophobia, no itching. Usually both eyes are affected, but the disease is migratory, and is prone to recur with each successive attack of gonorrhœa.

6. Shoulder rheumatism.

Mathieu (*Progrès Méd.*, 1885, No. 32) describes in detail a rheumatic affection, which is well known and often met with, but which receives scant notice in the ordinary text-books. After exposure to cold, or even without any apparent cause, a patient suffers pain in the shoulder and hindrance to the movements of the upper extremity; when the affection is well-marked the hand cannot be raised to the head. The pain can be localised mainly in the brachial plexus above the clavicle and at the points of insertion of the muscles of the shoulder-girdle, especially the deltoid and the short head of the biceps. Tenderness is also found at these points. In more severe cases the pain and tenderness are more extensive, and are perceived along the course of the arm nerves, and in the ligaments of the elbow-joint.

It is to be noticed, however, that tenderness is found only at the insertions of muscles, and not in the muscle-masses themselves. Movement causes pain in the joints, but there is no swelling of the joints. Disorders of sensation are observed in the hand and arm.

Such cases, judging by their symptoms, are an apparent mixture of rheumatism and neuralgia. They are not uncommon among the out-patients of a hospital, and, in addition to the signs mentioned above, I have usually noted a diminution of muscular power in both the hand and fore-arm. The affection, if slight, is diagnosed as rheumatism of the shoulder-joint; if severe, as neuralgia of the brachial plexus, or peri-neuritis. The resemblance between such cases and sciatica is obvious. In old-standing cases, a pronounced atrophy of the deltoid may be noticed.

Mathieu has found salicylate of soda, in doses of 60 to 90 grains per day, of great service; but its use is best combined with chlorido of methyl-spray several times repeated. Mathieu has

found that, if left to itself, the affection lasts for weeks or months; but the treatment described above will cure the case in eight or ten days.

7. Chronic rheumatism.

Halsey (*Therapeutic Gazette*, July 15, 1886) has treated seven cases of chronic rheumatism with fluid extract of manaca, giving 1 drachm every four hours; but the results were doubtful. He quotes, however, from Berger, who speaks more favourably of the drug.

8. Rheumatoid arthritis.

Dr. Spender, of Bath (*Lancet*, 1886, vol. i., p. 439), considers that rheumatoid arthritis may successfully be treated in the early stages. In the later stages, however, unlike pure rheumatic or gouty arthritis, no treatment can be of permanent avail. He considers local treatment to be of the highest importance. If strong applications, such as blisters, are used, they should be applied, not on the joint itself, but at a little distance from it. A cantharides blister should be placed on the cardiac side of the joint, and allowed to heal immediately. Iodine liniment may be applied both above and below a joint, while sponging with water, as hot as can be borne, is specially recommended. As a mild form of counter-irritation, Dr. Spender prescribes the Bath thermal waters. "Wet" douching (the whole body immersed) is to be preferred when the joints are tender and movements painful. "Dry" douching (the whole body not immersed) when there is no pain, and the disease is sluggish. Skilled shampooing is also of use.

A patient suffering from rheumatoid arthritis should live in a dry, warm place, and, if possible, should spend the winter and spring on the Riviera. Of drugs, the most efficacious are cod-liver oil, discreetly pushed, and continued for a considerable time, iron, iodide of sodium, strychnine, arsenic, and the syrup of the iodide of iron. Hygienic measures, such as steady and regular exercise, plenty of sun and sea, warm clothing, and varied nutritious food, are not to be neglected.

Mr. Adams (a paper read before the Harveian Society, and published *in extenso* in the *Brit. Med. Jour.*, 1886, vol. ii., p. 915) gives the summary of his extensive experience in the treatment of rheumatoid arthritis, especially as affecting the hip-joint.

He considers that the disease is not an independent affection, but that it is closely associated with the rheumatic or gouty diathesis. In the later stages he believes it to be incurable. In the early stages, if at this period the disease can be accurately diagnosed as rheumatoid arthritis, he relies upon the principle of

"rest and sweat," and discountenances counter-irritation. He recommends the vapour bath, local or general, and water-dressing to the part. Tincture of iodine may be applied to the part before the water-dressing, and seems then to be more efficacious than when allowed to dry. Carbonate of soda or lithia may be added to the water-dressing, or tincture of opium may be sprinkled over the hot lint if there is much pain. Internally iodide of potassium is specially recommended, but other preparations of potash, soda, lithia, and salicine are of use.

In the chronic stage, similar treatment may be required for occasional acute exacerbations, but, as a rule, the principle of treatment must be to preserve motion, and restrain gouty or rheumatic tendencies. Locally, turpentine liniment rubbed on with a piece of flannel, the joint being afterwards wrapped in flannel, is specially commended. Bath and Buxton may be resorted to, but Mr. Adams considers that patients derive more benefit from a stay at Harrogate, Luchon, or Aix-les-Bains. Dietetics must be arranged to combat a rheumatic or gouty diathesis.

9. Sciatica.

Dr. Steavenson (*Lancet*, 1886, vol. ii., p. 113) records his further experience in the treatment of sciatica by galvanism. This method will be found described in the *Lancet*, Jan. 19, 1884. Of sixty cases recorded in the present paper, thirty-seven were cured, eleven improved, and two did not improve, the result being uncertain in the remainder. The number of applications necessary to effect a cure varied from one to fifteen.

A limited application of this method of treatment has not given me very good results. Sometimes the disease is rendered worse, frequently the pain and stiffness are much relieved, to return again next day. In all probability I have not applied the remedy so thoroughly as Dr. Steavenson has done.

Max Schüller (*Deutsche med. Wochens.*, 1886, No. 24, quoted here from *Lancet*, 1886, vol. i., p. 1232) is convinced of the superiority of massage over other measures employed in the treatment of sciatica, and relates his experience of fifteen cases—all in males, and except in one or two instances (which were traumatic in origin) due to exposure to cold. Most of the cases were dealt with from the first by massage; but in a few instances electricity, vapour baths, &c., had been fruitlessly employed, prior to the case coming under Schüller's care. The *modus operandi* is as follows:—The patient lies on the unaffected side with knees and hips slightly flexed. The course of the sciatica nerve is rubbed from below upwards, partly with both thumbs, partly with the ball of the little finger or thumb, sometimes struck with the closed fist,

sometimes the muscular mass over the nerve pressed and kneaded with both hands. The pain evoked by these manipulations soon passes away, and after a short time becomes less and less at each sitting. The neuralgic pains very soon abate, diminishing after a severe and painful massage, then recurring with less severity, and gradually disappearing entirely. The power of walking improves after each sitting. On an average, treatment lasts about two weeks and a half; in one case nine days, and in several from ten to fourteen days sufficed. One patient abandoned the treatment after five days, owing to the pain caused by it, and tried, without relief, a fortnight's course of electricity and vapour baths. He then returned to the massage treatment, and was cured in two weeks and a half.

10. Gout.

Professor Jaccoud (*La Thérapeutique Contemporaine*, and *New York Med. Journ.*, Sept., 1886, p. 268) considers that the treatment of gout is only of avail between the attacks. The diet should be mixed, with vegetables predominating. Game and shellfish should be avoided, and as a beverage, water or light wine should be enjoined. Early rising and going-to-bed, with moderate exercise, are essential, and the whey-cure every spring and autumn is also recommended.

Beyond this general treatment, M. Jaccoud prescribes, if necessary, equal parts of milk and alkaline water, such as that of Vichy, three or four glasses daily, for at least ten days in each month. Benzoate of lithia, in doses of 8 to 10 grains daily, is of use. If intestinal catarrh should occur, or if there is a tendency to fleshiness, a teaspoonful of Carlsbad salt should be taken every morning for five days, repeating the course every fortnight.

For robust persons, M. Jaccoud recommends a course of treatment at Vichy or Carlsbad; for those not in good condition, Ems or Royat. If there are remains of articular attacks, Kissingen and Homburg may be prescribed, and for renal lithiasis, Contrexéville, Evian, Martigny, or Vittel. Old and enfeebled subjects are benefited by a stay at Ragatz.

During the acute attack, M. Jaccoud prescribes rest, wrapping the joint in wool, &c., and only gives salicylate of sodium (45 grains a day) or colchicum wine (a drachm or a drachm and a half in the day) if the pain is severe or the attack prolonged.

11. The Gouty Regimen.

Dr. Spender (*Practitioner*, May, 1886, p. 340) urges that, in spite of the doctrines of certain writers, the diet to be ordered in gouty cases should be a spare one. It is impossible to eradicate the disposition or diathesis that lies at the bottom of uric acid

production, but we may try to reduce uric acid formation in general, and so check the urate deposit in various parts of the body. The general principles of diet in gouty cases are these :—Flesh food should be taken in a *diluted* form, that is, as boiled poultry and fish, not as beef and mutton ; fatty food need not be prohibited, and is, indeed, absolutely necessary ; starches and sugars, on the other hand, since they are comparatively useless, and often harmful, should be, to a great extent, avoided.

Dr. Spender considers it of the first importance to strictly limit the quantity of food. The food should be so prepared as to leave as little work as possible for the stomach to do. As a suggested dietary is given the following :—The breakfast to consist of weak tea, toast, and fat bacon, or the yolk of an underdone egg ; an early dinner should consist of mutton, white fish, poultry, or game, with fresh green vegetables, but only a small quantity of potatoes ; a light pudding of milk, eggs, and flour may be allowed, and stewed apples, pears, &c., or fresh cherries, strawberries, and grapes. Condiments should be taken in amounts barely necessary to season the food and make it palatable. An early evening meal should include cold chicken or sweetbread, with cocoatina and milk. Oatmeal porridge may be substituted for these. Robust persons, with a strong gouty tendency, should totally abstain from alcohol, but in other cases a little light wine, with an aerated alkaline water, may be allowed. Smoking is not desirable. Exercise is absolutely necessary. The clothing should be warm, and of wool, while Turkish baths and shampooing of the limbs are of use. Mineral waters, and especially warm waters, are of great use, and an equable and temperate climate is beneficial.

12. Mineral Waters.

Of late there has been a decided tendency to raise our English spas into public favour. It may be that our home mineral springs are lacking in some of the powers of those of the Continent, even when due discount is made for the meretricious surroundings of the latter ; but it is beyond question, that from sheer neglect, perhaps from the dictates of fashion, we have under-estimated the value of the watering-places near home. Their easiness of access is a quality of real medical importance, as will readily be admitted by those who, somewhat relieved of their pressing ailments, return home from the Continental resorts, wearied mentally and physically by the long journey, and considerably lighter in purse than on the outward track. There is now an opportunity of restoring to their former popularity some of the neglected "waters."

Dr. Smith in his "Leamington as a Winter Health-Resort" has drawn attention to one of these watering-places, for which he claims curative powers in many disorders, and, amongst others, in gouty and rheumatic affections. The waters are purgative in large, diuretic in small doses. The alkali contained in them is of value in the gouty diathesis, and chronic cases of rheumatism are relieved by them when other remedies have failed. Sciatica is said to be greatly benefited by the Leamington treatment.

ANÆMIA AND ALLIED CONDITIONS.

BY SIDNEY COUPLAND, M.D., F.R.C.P.,

Physician to Middlesex Hospital.

1. Certain forms of pernicious anæmia, and their curability.

The mystery which envelops the etiology of so-called progressive pernicious anæmia is reflected in its treatment, which, it must be confessed, is more or less haphazard and empirical. It is true that cases are occasionally recorded where temporary benefit (and sometimes, perhaps, permanent cure) has ensued upon arsenical medication, or the resort to transfusion (Quincke). But the more usual course of the disease is a progressively downward one, so much so, that the existence of "curable" cases involuntarily suggests variations in the type and nature of this "idiopathic" affection. There is, however, a class of cases—resembling in their clinical features the foregoing—where a definite cause for the anæmic condition has been assigned. I refer to cases of progressive anæmia due to the presence of intestinal worms, and cured by treatment directed to the removal of the parasite. Such, for example, is the variety known under the terms "Egyptian chlorosis," the "St. Gothard tunnel disease," "anæmia of miners," "brick-burners' anæmia," which, each and all, owe their origin to the presence of an intestinal nematode worm—the *Anchylostomum duodenale*—the ova of which gain entrance through drinking water, and develop into sexually mature forms in the upper part of the intestinal tract, where they attach themselves to the mucous membrane, and where they may be met with in large abundance. The anæmia, unless it has been allowed to become too profound, is cured by the antihelminthic treatment, that rids the patient of this formidable parasite, which is often present in large numbers. Another and far more common intestinal worm—the *Bothriocephalus latus*—has quite recently been alleged to be at the root of other cases of progressive anæmia,

which similarly have been cured by a resort to antihelminthics. [The tropical affection—"beri-beri"—of which anæmia forms one of the most striking features, is also averred by Keni to depend on the presence of *Tricocephalus dispar*; but beyond the fact that this worm was found in large numbers in the intestinal canal of many cases of this disease, there is really no evidence to justify the conclusion that the association is other than accidental.]

2. *Anchylostomum duodenale*.

Renewed attention has been paid to this subject, in Germany especially, during the past year or two, by the discovery of well-marked cases of "anchylostomiasis" in brick-burners, in the vicinity of Cologne, Bonn, and elsewhere. All writers concur in the value of antihelminthics—especially male fern—to be followed by ferruginous medication. Bäumlér (*Centralbl. f. klin. Med.*, 1885, No. 16) prescribed doliarina in doses up to four grammes thrice daily, with the result that in two days large quantities of the parasite were passed. The whole subject is most fully treated by Lütz (*Volkmann's Sammlung*, Nos. 255 and 265); and amongst other recent contributions to its literature may be mentioned Leichtenstern (*Deutsche med. Woch.*, 1885, Nos. 28 to 30, and 1886, Nos. 11 to 14); Mayer (*Centralbl. f. klin. Med.*, 1885, No. 9); Seifert and Müller (*ibid.*, No. 27); Snyers (*Le Progrès Méd.*, 1886, No. 6), who gives four cases all cured by the free use of male fern followed by iron; and Dubois (*Centralbl. f. klin. Med.*, 1886, No. 33), who gives fourteen cases in Limburg, Netherlands, all brick-burners, infected near Cologne.

3. *Bothriocephalus latus*.

Under the title "Contributions to the Etiology and Curability of Pernicious Anæmia," Dr. Gustav Reyher, of Dorpat (*Arch. f. klin. Med.*, 1886, Hft. 1 u. 2), has been the first to suggest that this tapeworm is the cause of some cases, at least, of this affection. In this paper he gives full details of thirteen cases, most of them presenting symptoms regarded as characteristic of pernicious anæmia, and having the same progressively downward course. In each of these cases improvement in health and eventual cure of the anæmia dated from the expulsion of bothriocephalus with which they were affected. The discovery of the tapeworm in the first case observed was accidental; there was intractable diarrhœa, and some segments were passed; this led to the prescription of male fern, the consequent passage of the whole worm, and gradual restoration to health. So constantly has he since found an obscure and severe anæmia associated with the bothriocephalus, that he is convinced that the association is not accidental, but causal; and further that, had it not been for the antihelminthic

treatment, the cases must have terminated in the way in which pernicious anæmia almost invariably does. An analysis of the symptoms presented by these cases shows how closely allied they are clinically to "pernicious anæmia." The subjects were, with the exception, in a good state of nutrition, contrasting with the extreme anæmia they presented. Pyrexia—another constant symptom of pernicious anæmia—was present to a notable extent of one-half of the cases; but owing to defective observation, the precise proportion could not be ascertained. Again, the condition of the blood—viz., the paucity and deformity of the red corpuscles, &c.—which has been by some regarded as pathognomonic of pernicious anæmia—was here also observed, proving that it is a result and not an antecedent of the anæmia. Hæmorrhages—cutaneous, submucous, retinal, and other—were also noticed in some of these parasitic cases, as well as nerve symptoms attributable to cerebral anæmia. In fine, there seems no escape from the conclusion that the bothriocephalus, by fixing itself on the mucous membrane, does operate like the anchylostomum, for the rapidity with which the blood-condition improved, after the parasite had been expelled, could not be explained on any other hypothesis.

This doctrine received independent support from **Prof. Runeberg** (Helsingfors) in a paper read before the Berlin Meeting of the Association of German Naturalists and Physicians. His observations relate to Finland, where bothriocephalus is common; and since the middle of 1883 he has treated at the Helsingfors Clinic, nineteen cases of progressive anæmia, in twelve of which the tapeworm existed. Of these nineteen cases, treated by antihelminthics, only one died (and that was a patient who was admitted in a state of destitution), whereas from 1878 to 1883—when no antihelminthics were prescribed—he had had nine fatal cases of pernicious anæmia. Both Reyher and Runeberg suggest the possibility of other intestinal parasites, usually regarded as innocuous, being the unsuspected cause of a fatal anæmia. It should be added, however, that **Prof. Biermer**, in the discussion upon this paper, declared that the cases related did not fall under the category of true pernicious anæmia, and that neither at Zurich nor at Breslau had he ever met with any tapeworm nor with anchylostomum in the cases he had examined. **Professors Quincke** and **Immermann** expressed similar doubts; whilst **Dr. Heller** pointed out that in Holstein, where bothriocephali were common, he had not seen any anæmic state produced by them, although the presence of such parasites might conceivably intensify the symptoms of pre-existing disease. (See *Münch. med. Woch.*, 1886, No. 43.)

4. The action of ferruginous preparations.

Professor Stockvis read a paper on this subject before the Netherlands Association for Science (*Lyon Méd.*, 1886, No. 26). He reminded his hearers that Claude Bernard did not believe iron was absorbed, because after its administration the portal blood contained no more than before. He attributed its effects to the stimulation of the gastric mucous membrane. Schmiedeberg also thought iron was eliminated entirely by the fæces—one of his pupils (Williams) attempting to show that when directly introduced into the circulation, symptoms of poisoning, not unlike those of mercury and antimony, were produced. On the other hand, Wild's researches showed that the quantity of iron discharged from the intestines was notably less than the amount administered. In animals kept long on iron, he found in the stomach 24 per cent. of the amount introduced; in the small intestine, 47 per cent.; in the cæcum, 83 per cent.; and in the rectum, 91 per cent. This points to absorption, and subsequent excretion lower down in the intestinal tract. Hösslin found that of two young dogs, one fed exclusively on milk, the other on milk and albuminate of iron—the latter gained more rapidly in weight than the former. Iron is probably stored up in the hæmatoporetic organs, to be utilised for the regeneration of hæmoglobin when diminished by hæmorrhage or other accidental cause. Professor Stockvis prefers to administer it by the mouth, thinking that its local action is of service, an effect which would not be produced if given hypodermically.

5. Subcutaneous administration of iron.

Professor Chiara relates a case (*Bull. Gén. de Thérap.*, June 15, 1886) of very severe anæmia following repeated menorrhagia rapidly cured by injections of citrate of iron (10 centigr. to 1 grm. of water) twice a day. The injections were made chiefly in the buttock.

Before treatment, red corpuscles	...	...	1,302,000 per cub. mm.
" white corpuscles	...	...	6,200 "
After 20 days' treatment, red corpuscles	...	...	3,503,600 "
" white corpuscles	...	...	6,200 "

The same practice was followed by Mori in three cases. Two of these patients were pregnant, one aborted, and the other was prematurely confined—apparently from the treatment. But the anæmia in each case was rapidly cured.

A combination of perchloride of iron and ptyptone has been introduced by Gaillet (*L'Union Méd.*, Jan. 31, 1886), under the

name of *chloropeptonate of iron*, and is said to be rapidly absorbed whether given by the stomach or hypodermically.

6. Albuminate of iron in chlorosis.

Dr. Blondel records a case of chlorosis (*Progrès. Méd.*, 1886, No. 3) cured by albuminate of iron (Laprade's formula), after failure of the carbonate. He attributes the superiority of the former drug to its more ready assimilation and its alkalinity.

7. Quinine as a hæmatinic.

Dr. H. A. Hare (*Boston Med. and Surg. Journ.*, 1886, No. 16) has made experiments on himself to supply an answer to the question, "Does the sulphate of quinine, when given in moderate doses, increase the number of red blood corpuscles?" It is generally believed to do so, but hitherto no proofs have been afforded of it; and Briquet, in 1885, asserted that when given in continued therapeutic doses, quinine lowered the proportion of red corpuscles. The somewhat variable estimates given of the normal proportion of corpuscles, from 4,600,000 per cub. mm. (Welcker) to 5,994,000 (Hare), depending on the necessary imperfections of hæmocytometers, may affect the absolute results of such estimation; but do not influence observations when relative amounts are alone required. By using the same instrument, and making a sufficient number of counts, comparative errors are avoided. Dr. Hare first made forty-two counts of his own blood without the drug, and then a similar series whilst taking 10 grains of sulphate of quinine a day, without varying diet or habits, and taking care that each observation was made at a definite hour with regard to meals, &c. Of the drug, 4 grains were taken at bedtime, 3 grains after breakfast, and 3 grains after midday dinner. Malassez apparatus with Potain's mixer was used. The result showed a decided increase under quinine:—

Average before taking the drug ...	5,822,286	ub. mm.
„ whilst „ ...	6,194,285	„

8. The arsenical treatment of pseudo-leukhæmia.

Further evidence, in support of the utility of arsenic in Hodgkin's disease, is given by Angyán (*Centralblatt für klin. Med.*, 1885, No. 31), who details well-marked cases which were favourably influenced by the drug; the glandular swellings subsiding more or less completely. One of the cases was complicated with syphilis which apparently initiated the lymphatic affection. But, although the syphilitic symptoms subsided under mercurials, the glandular swelling did not abate until after arsenic had been administered. Out of twenty-nine cases of this disease, treated

by arsenic, nine were quite cured, nine improved, six died, and five abandoned the treatment.

9. Parenchymatous injection of arsenic into leukhæmic spleen.

Dr. Mosler (*Deutsche Med. Woch.*, No. 13, 1886) points out that splenectomy is contra-indicated in at least 50 per cent. of cases of leukhæmia on account of the hæmorrhagic diathesis associated with this disease. He, therefore, investigated the results of parenchymatous injections into the organ (*Deutsches Archiv f. klin. Med.*, Bd. 15 and 18). The injection of sclerotic acid in a patient of Kussmaul's was unsuccessful, the patient dying apparently from the effects of the injection (Jaeger—*Inaugural Dissert.*, Strassburg, 1880). It is, therefore, an operation which requires carefully selected cases, *e.g.*, that the spleen be firm and dense, that there be no hæmorrhagic diathesis, nor well-marked cachexia. Preliminary medication by quinine, piperine, and eucalyptus, is needful to diminish the amount of blood in the organ; for which purpose also ice should be applied for some hours before and after the injection is made. Fowler's solution is the most appropriate for the purpose, and the first case so treated by Mosler occurred in 1882 (Peiper—*Deutsches Archiv f. klin. Med.*, Bd. 34). In his present paper Mosler describes the case of a man, fifty-six years old, who had suffered from the disease for two years. The spleen extended to the umbilicus, and downwards to the iliac fossa, its upper margin reaching the level of the sixth rib. Examination of the blood showed a great increase in leucocytes, which nearly equalled the red corpuscles in number. For three weeks the patient was treated with pills containing quinine, piperine, and eucalyptol, and then the injections of Fowler's solution were commenced—a whole syringeful (Pravaz syringe) being given on each occasion. The procedure was repeated twice in a week, and twenty-one such injections were made, before the case was exhibited at the Greifswald Medical Society, by which time the spleen had receded three fingers' breadths from the umbilicus. After a treatment extending from August to December the patient left the hospital much improved.

[To illustrate the practice of puncture into the spleen, reference is made to a paper by Dr. Philipowicz (*Wien. med. Blätter*, No. 647, 1886) advocating such puncture as an aid to diagnosis in typhoid fever and other specific diseases. By taking due antiseptic precautions the procedure is said to be quite innocuous; but Mosler rightly questions the propriety of its employment for the purpose aimed at by Philipowicz, *viz.*, to detect the bacillus typhosus (!), the presence of which can as readily (and without any risk) be detected in the stools.]

10. The administration of blood in anæmia.

It is some years since the introduction of dried ox-blood as a remedy for anæmia, and enemata of freshly-drawn blood were also at one time advocated. Under the heading "Treatment of essential Anæmia," there is a paragraph in the *Münchener med. Woch.*, No. 25, p. 455, 1886, to the effect that fowl's blood (Hühnerblut) has been employed by Professor Brancaccio, of Naples, with "striking results, exceeding all expectation." The prescription at first was 80 grms. of blood to be drunk daily, and the dose was gradually increased to 200 grms. Details of six cases are given in the original (*Prager med. Woch.*), and it is stated that in all the appetite returned, the strength was renewed, and the general nutrition improved, so that within one to two months the anæmic condition had disappeared.

11. Treatment of acute anæmia by intravenous injection of salt solutions.

Dr. F. S. Harrington has collected and tabulated a series of published cases, mostly of acute anæmia treated by saline injection into the veins (*Boston Med. and Surg. Journ.*, No. 21, 1886). He remarks upon the substitution of various fluids for blood transfusion, and the extent to which saline injections have been used in cholera since the epidemic of 1832-33. He says "within late years it has been found by experiments on animals that those dying from loss of blood could be resuscitated by the injection of solutions of common salt. Salt solution is an indifferent fluid, and the beneficial effect is supposed to be due to the increase in volume given to the blood remaining in the system after bleeding. In progressive anæmia life may continue, although the red corpuscles are reduced to less than one-tenth of the normal number; a reduction greater than would even occur from hæmorrhage. When the red corpuscles, remaining after severe bleeding, are brought into circulation by a harmless medium, the danger of death is diminished. Moreover, the increased volume of the current gives the heart something to contract upon, and its action becomes slower and stronger." Ott showed that the benefit from blood transfusion depended on the amount of fluid introduced; but Maydl took a different view, and distinguished the forms of death from hæmorrhage: (1) from anæmia of the nerve-centres, in which case stimulation, position, and auto-transfusion usually suffice to avert death, and saline injections are rarely necessary; and (2) where death is due to such a loss of blood that life cannot be sustained, requiring imperatively blood transfusion or saline injection followed by transfusion of defibrinated blood.

Dr. Harrington reproduces Bull's table of nineteen cases (published in 1883) with ten others, in all of which saline infusion was employed. The following summary is given :—

“One case of iodoform poisoning, three cases of poisoning from illuminating gas. These four cases recovered. There were four cases of collapse, two from peritonitis, one from septicæmia, one from shock. These cases showed temporary improvement, but all died. One case of incomplete removal of uterine carcinoma, after temporary improvement, died ; one died on the following day from amyloid degeneration of the remaining kidney, the other having been removed ; one case recovered from the hæmorrhage, but death followed in six days from septicæmia ; one case recovered, but died in three weeks from peritonitis ; one case died in three hours, the result of a second hæmorrhage from a gastric ulcer ; one case of nephrectomy, after temporary improvement, died in twelve hours ; one case recovered from the hæmorrhage, and died in five days of peritonitis. Of the above-mentioned fifteen cases four recovered. The others died from some cause other than hæmorrhage. There remain fourteen cases, of which thirteen made complete recovery. One case died immediately. If correctly reported the injection of over sixty-six ounces in fifteen minutes must be looked upon as a dangerous proceeding. It is the only case favourable for the operation in which there was no improvement.”

As it is desirable that the circumstances under which the measure is adopted should be widely known, we may extract the thirteen cases alluded to from Dr. Harrington's table. [Schwarz's solution is a saline solution made slightly alkaline by sodic hydrate.]

Dr. Harrington points out that intravenous injection is demanded by the patient's peril, and not merely by the amount of blood lost. The best form of solution is :—

Sodic chloride	...	...	...	...	6 = 3jss.
Sodic bicarbonate	...	...	...	...	1 = gr. xv.
Aqua distillata	...	...	...	...	1000 = ojj +.

Water that has been boiled and filtered, or pure water that has been filtered, will answer the purpose. The solution should be warmed, and kept at a temperature between 100° and 104° F. “A reservoir with a rubber tubing and a cannula of small size make the best injection apparatus. No air should be allowed to enter the current. The solution should enter the circulation at a low pressure, and its effect on the heart should be carefully

No.	Operator.	Condition for which the Injection was made.	Quantity of Solution. Temperature. Apparatus. Duration of Operation.	Vessels.	Reference.
1	Bischoff	Anæmia following separation of placenta.	40 oz. of Schwarz's sol. ; in one hour ; funnel and tubing.	Peripheral end of radial artery.	<i>Centrbl. f. Gyn.</i> , 1881, No. 23.
5	Kummel	Anæmia from secondary hæmorrhage (excision of knee-joint).	16 oz. of Schwarz's sol. ; with glass syringe.	Peripheral end of radial artery.	<i>Centrbl. f. Chir.</i> , 1882, No. 19.
8	Saumann	Multiple injuries : resection of head of humerus. 43 hours later cerebral anæmia on sitting up for change of dressing.	24 oz. of Schwarz's sol. ; in 15 to 20 minutes ; with irrigator.	Median vein at elbow.	<i>Berl. klin. Woch.</i> , 1883, No. 21.
9	Heyder	Anæmia from extraction of placenta ..	12 oz. of Schwarz's sol. ; temp. 104° F. ; in 10 minutes ; by irrigator.	Median vein at elbow.	<i>Centrbl. f. Gyn.</i> , 1883, No. 25.
11	Jennings	Anæmia from traumatism before labour	16 oz. of alcoholised saline sol. ; syringe ..	Vein at bend of elbow.	<i>Lancet</i> , 1882, ii., 436.
12	Coates..	Anæmia from post-partum hæmorrhage	Alcoholised saline fluid ; by Jennings' siphon	Vein at bend of elbow.	<i>Lancet</i> , 1882, ii., 1110.
13	Bull	Anæmia following extirpation of angioma at elbow. Bleeding stopped by ligature of brachial. Patient cold, unconscious. No radial pulse ; ca-rotid 140.	12 oz. of warm salt sol. (2 percent. in distilled water) ; in 10 minutes ; with Collins' apparatus.	Median basilic ..	<i>Med. Rec.</i> , Jan. 1, 1884.
18	Halsted	Collapse 12 hours after compound fracture with severe bleeding. Patient unconscious, cold ; pulse barely perceptible.	6½ oz. of salt sol. (1 in 100) ; in 15 minutes ..	Central end of radial artery.	Dr. Weir, N.Y. Hosp.
19	Jersey..	Anæmia from incised wounds. Very severe bleeding for 3 hours. No radial pulse.	12 oz. of Schwarz's sol. ; in 10 or 15 minutes ; with irrigator.	Median cephalic	Ditto.
20	Mikulicz	Anæmia from wound of brachial artery. Pulse 130, thready. Breathing laboured.	20 oz. of salt sol. (6 percent.) ; in 15 minutes ; temp. 104° F. ; with funnel and tubing.	Cephalic vein ..	<i>Wien. Klin.</i> , vii., July, 1884.
22	Stroynowski	Placenta prævia. Unconscious. No radial pulse.	20 to 24 oz. of Schwarz's sol. ; in 13 minutes	Median cephalic	Ditto.
26	Ott	After labour very profuse hæmorrhage, probably varicose uterine veins.	83 oz. of salt sol. ; temp. 100-3° F.	Median vein ..	<i>Lond. Med. Rec.</i> , Feb., 1886.
27	Harrington	Ante-partum and post-partum hæmorrhage. Collapse. No radial pulse ; cardiac pulse, 100. Unconscious.	66 oz. of salt sol. (6 percent.) ; at two sittings, one hour and three quarters apart. The second for a second hæmorrhage ; temp. 110° F. ; funnel and tube.	Right and left median cephalic.	<i>Boston Med. and Surg. Journ.</i> , Mar. 4, 1886.

watched. Gravity pressure is safer than a syringe. An elevation of $1\frac{1}{2}$ to 3 ft. is sufficient. The amount used must depend upon the effect upon the circulation, but may be from 1 to 4 parts. If a vein can be found in the arm it may be used. This can usually be accomplished if a ligature is placed about the arm above the elbow, and the blood in the forearm is pushed toward the elbow, by the hand or by bandaging. If the vein cannot be found, the artery may be used. The salt solution should not be allowed to enter the circulation too rapidly, lest the heart be overpowered."

Landerer read a paper on the subject at the Congress der deutsch. Gesellschaft für Chirurgie, held at Berlin in April, 1886 (*Münch. med. Woch.*, 1886, No. 15). He advocated the employment of sodic chloride solution containing 3 per cent. of sugar. The admixture with sugar was made on Professor Ludwig's suggestion, and the advantages claimed for it are the slighter interference with the corpuscles, its being more suitable for the tissues, its increasing the blood pressure, and serving as nutriment.

Kortüm (*Berl. klin. Woch.*, 1885, No. 25) relates a case of metrorrhagia, treated by transfusion of 400 c.cm. of salt solution into the left median vein. Headache, vomiting, and rigor followed the operation, but there was soon a return to the normal condition.

Dr. C. W. Rook records a case (*Journal of Amer. Med. Assoc.*, Oct. 2, 1886) of intravenous injection of saline solution in collapse following hæmorrhage. The case was that of a man, fifty years of age, who was attacked with severe hæmorrhage from a recurrent sarcoma of the jaw. Dr. Rook was hastily summoned and found the man in a grave state of collapse. He made a warm solution of common salt, till the water became slightly saline to the taste, and injected a quantity into the median basilic vein by means of a small trocar and Mattison's rubber syringe, until the radial pulse became of good volume. The operation was followed by rigor, but in a few days the patient was restored sufficiently to undergo a second operation for the removal of the tumour.

12. Progressive idiopathic anæmia treated by saline injection.

Most of the cases, which benefit from the intravenous injection of saline fluid, are examples of acute anæmia, and the procedure has been rarely followed by success in chronic cases, especially of the idiopathic or pernicious form. This is to be expected, since in these latter cases there is a profound alteration in the composition of the blood, without any notable diminution in its quantity. A remarkable case, with curious clinical features,

is recorded by Dr. Lépine (*Lyon. Med.*, 1886, No. 30). The patient was a country girl, who came to Lyons at the age of fourteen, and under the combined influences of defective nourishment and confinement in an ill-ventilated room, became progressively anæmic and weak. When admitted to the Lyons Hospital, she exhibited all the signs of severe chlorosis. The hæmoglobin was reduced to one-sixth of the normal, the corpuscles not being reduced in proportion. The "corpuscular value" was estimated at 0.42 per cent. She became worse in spite of energetic treatment, including subcutaneous injection of citrate of iron, and a generous diet. She lost weight, and was attacked with a generalised atrophic paralysis, involving especially the extensors of the upper and lower limbs. (M. Lépine states that there was no evidence of lead-poisoning whatever.) Three months after admission it was decided to resort to transfusion, the patient having continued to lose ground. A slightly alkalised solution of sodic chloride (7 grammes per litre) was employed. The operation was done by M. Truc, the fluid being injected to the amount of 400 c.cm. into the cephalic vein under a pressure of 8 to 10 centim. of water, and at a temperature of 39° C. There were no ill effects, immediate or remote. On the contrary, the pulse increased in strength, appetite returned. She slowly continued to improve, and a year after the operation left Lyons for the country quite well. Concomitantly with improvement in the general health, the muscular paralysis subsided. Professor Lépine does not attribute the whole cure to the saline injection, but considers that it probably initiated hæmatopoiesis. He thinks this the first case of chronic anæmia treated successfully by saline injection, and says that it illustrates the value of occasional energetic treatment in chronic disease, a fact of which our predecessors were fully aware.

[The complication of muscular atrophy with chlorosis is certainly remarkable. The case is not fully detailed, but it is suggestive of multiple neuritis, and rather points to some common cause of the anæmia and the paralysis.]

13. Transfusion of blood.

The lately published *Transactions of the Eighth International Medical Congress at Copenhagen*, 1884, contain (vol. ii., Section de Médecine) an abstract of a paper by Dr. J. Roussel, upon Direct Transfusion of Living Blood, by means of his well-known apparatus, the advantages of which are again set forth. Dr. Roussel states that in surgical cases he has performed transfusion thirty-nine times, with eighteen successful results; and in medical cases, twenty-eight times, with ten recoveries.

This paper is followed in the volume by one by Mr. C. Egerton Jennings, upon Transfusion of Blood and Saline Fluid, in which he reiterates the opinions he has already published, and dissents from Roussel's doctrines. He points out that saline fluid may be profitably injected to an amount equal to that of the quantity of blood lost in a case of hæmorrhage, provided this amount does not exceed one-fifth of the total amount of blood in the body; and that since the primary action of transfusion is a dynamic one, saline injection will be followed by the same immediate result as blood transfusion, and may thus tide the patient over the critical period. But in acute anæmia from hæmorrhage, when the blood lost exceeds one-fifth of total quantity, then blood transfusion is called for.

A successful case of blood transfusion is reported by M. Duret, of the Charity Hospital, Lille. "The patient was in a drunken, excited state, and cut his wrist breaking a pile of plates. He was conveyed to the hospital in a dangerous state from hæmorrhage. Esmarch's band was applied to the arm, and the vessel cut was ligatured. The patient's condition became more and more serious; the heart-beats were scarcely heard, and only at very long intervals. One of the patients, whose general condition was vigorous, furnished the blood. From 250 to 300 grammes of it was injected into the circulatory system of the wounded man. There was no immediate improvement, but breathing gradually regained its normal character; the heart-beats and the pulse were stronger, and more regular. After two hours the patient regained consciousness; he passed a good night, and the next morning he was out of danger." (*Brit. Med. Journal*. Paris Correspondence. March 6, 1886, p. 462.)

Professor Annandale's apparatus for transfusion was exhibited at a meeting of the Midland Medical Society, by Mr. Lawson Tait, who described the steps of the operation. (*Brit. Med. Journal*, April 10, 1886, p. 696.)

Dr. John Duncan advocates the re-infusion of blood lost in amputation, previously mixing it with a 5 per cent. solution of phosphate of soda (1 part of saline to 3 parts of blood), and injecting the mixture into a vein. (*Brit. Med. Journal*, Jan., 1886, p. 192.)

14. A novel method of transfusion.

In a letter addressed to Professor Semmola (*La Medica Contemporanea*, 1885, No. 10), cited in *L'Union Médicale*, 1886, No. 18, Dr. Fubini states that he has practised with success a method of transfusion (?), in which advantage is taken of the absorbent properties of the respiratory mucous tract. The method consists in

using a mixture of defibrinated ox-blood and solution of sodic chloride (0·75 per cent.) in the proportion of 20 parts of the former to 80 parts of the latter, as an inhalation by means of the ordinary "pulverisation." The inhalation is practised five or six times daily, about 20 cc. of defibrinated blood being employed at each sitting. The writer prescribes the method in cases of anæmia, where iron is ill tolerated ; and the only inconvenience it occasions is slight vertigo at first.

MEDICAL DISEASES OF CHILDREN.

BY JAMES F. GOODHART, M.D., F.R.C.P.,

Physician to Guy's Hospital, and to the Evelina Hospital for Children.

THERE has been but little of novelty to record during the last year in this section. The various periodicals teem with contributions upon two great subjects—the use of antipyretics and the treatment of pertussis; and not far behind the latter in this respect, comes diphtheria. Fortunately, all these questions are possessed of far-reaching and abiding interest, and thus the year's work is redeemed from the monotony which would, perhaps, otherwise attach to it. But there is one series of observations during the year which give greater promise than any of recent memory. I refer to Mr. W. H. Power's observations upon the origin of scarlatina. These are alluded to in their proper place. Preventive medicine takes higher ground than "treatment," but anything that leads to the stamping out of such a scourge as scarlatina, is worth mention in any and every section that deals in any way with that disease.

As regards the recent somewhat general employment of antipyretics—by which I understand antipyrine and thalline as the two drugs which have been chiefly in use—it would appear that these stand to each other in a similar relationship in their action upon the human economy, as do nitro-glycerine and nitrite of amyl; as nitrous oxide and chloroform. The effects of the one drug, that is to say, are more lasting than those of the other.

Antipyrine is a drug which efficiently depresses the temperature, and its effects are often perceptible, at any rate, for many hours. Thalline, on the other hand, while an equally good antipyretic in its power of lowering the temperature, is less efficient, in that its influence is sooner recovered from. I lay stress upon this, because there seems to follow from it, as is found to be the fact, that thalline is the safer drug of the two. As is noted hereafter, Professor Steffen remarks that remedies of this class seldom act as

thalline does in so completely harmless a manner. But I wish to bring pointedly before the mind of the practitioner that this involves no less than the comparative inertness of the drug—at least, so I think. What is wanted is an antipyretic that will depress the temperature, keep it down, and yet be no risk to the patient. And such a drug we do not possess at present. —He would be a bold man who would say we are not likely to obtain such an one in the present day of rapidly-advancing knowledge and energetic investigation, but, at the same time, that is the thought which is present to me now. With anæsthetics it may almost be said that in proportion to the completeness of the effects, of which, of course, the duration is one of the chief elements, so is the risk. So is it, I had almost said so must it be, with antipyretics; and, if drugs are given to children which suddenly knock down the temperature and keep it down, I doubt very much whether an operation of this kind can ever be altogether free from danger. There are many contributions to medical literature during the past year upon the advantage accruing in febrile diseases from the use of antipyrine and of the harmlessness of the drug. I would venture to say, notwithstanding, that it must be given with caution. It may produce, I have seen it do so more than once, a condition akin to collapse, which was, for the time, alarming. Thalline may be given, apparently, more fearlessly, but only as it appears to me, because it is bereft of the chief virtue of such a remedy.

May I further remind every one of his own experience of fever in children? Of how few children could it be said that the pyrexia killed them; of how few could it be said that by itself it had done much harm; of how many young children must it be admitted that the temperature runs up to 103° , or even 104° ? and it is never so much as known, so trivial are the circumstances which excite the storm, so transient is its vigour. In children, as a general rule, it is the general aspect of the disease which must decide the treatment, and not the one element of pyrexia. Now, this is not an argument directed against antipyretics; it *is* an argument intended to advocate a cautious and discriminating use of them.

With respect to the other disease, which has occupied a large share of attention, viz., pertussis, I should suppose I am fairly epitomising the opinion of most men in saying that, at this late date in its history, and in that of the experimental drugging which has been undertaken to cure it all over the world, more precision is wanted in our use of drugs. There has been far too much record of whooping-cough treated by this remedy and that,

almost to the known limit of the pharmacologist's world, some in the early stage, some in the late, some in the relapsing cough, and jumbling the observations all together as equally worthy of attention for or against a particular remedy, as the case may be. Out of this chaos thus much light has come that belladonna is decidedly useful, in many cases, in lessening the violence and the frequency of the cough; that quinine, in like manner, is useful in some cases; bromide of potassium, chloral, and many other things, in others. But it is equally clear that there is no specific in any of these things; and like chorea, with which Dr. Sturges would, and, I think, rightly, ally it, the convulsive cough, although relieved, still possesses a very indeterminable limit of existence. The cough has much of habit in it; and it is, therefore, highly improbable that there can be any specific for the later stages of the disease. And if, as seems likely from recent observations, the disease owes its origin to a specific germ, it must be treated by drugs which are inimical to the germ—not haphazard at any stage, but at the early stage before the cough has been confirmed, so to speak, by repeated practice. All the observations, of late, save those with cocaine, have turned towards antiseptics of one form or another; and it is, I think, permissible to urge that, for future work in this direction, the record of attempts to nip the disease in the bud will be much the more worth having than mere attempts to control the cough.

1. Intestinal irrigation in intestinal diseases.

Professor Monti has a long article on this subject in the *Archiv f. Kinderheilkunde*, Bd. vii., s. 161. Copious injections (one to two litres) of water, warm or cold, or medicated with drugs appropriate to the case, are given. The child lies on its back with its buttocks raised. The irrigation is commenced under low pressure, which, if necessary, may be increased by elevating the cistern. If straining be produced, the operation is suspended. Professor Monti has carried out this plan in dyspepsia, constipation, intestinal catarrh, infantile cholera, atrophy of the stomach, dysentery, typhoid fever, early typhlitis, and perityphlitis, catarrhal jaundice, as well as in the more usually recognised conditions for such treatment as intussusception and helminthiasis.

Kraus has a paper on a similar subject in the same journal, on p. 1 of the October number of this year, and equally mentions the treatment with approbation.

2. Infant feeding.

Dr. Ashby (*Manchester Med. Chron.*, 1886, p. 112) has a paper on this head, in which he advocates peptonised milk for infants; it is most readily prepared by pouring 4 ozs. of boiling water on

4 ozs. of milk, adding one-fourth of one of Benger's peptonising powders, two teaspoonfuls of cream, and allowing it to stand for ten or twenty minutes, according to the amount of peptonising required, then adding a teaspoonful of sugar or milk sugar, and letting the infant take it at once. The amount of milk taken will vary with the age of the infant, but the proportion of half milk and half water forms the best approach to a general rule.

3. Artificial rennet.

Dr. Ashby, of Manchester (*Brit. Med. Jour.*, 1886, vol. ii., p. 167), recommends this preparation of Mr. Benger's. Attention is called to the difficulty of procuring calves' stomach when required, and to the frequent failure of the essences of rennet. Every one will agree that a reliable and speedily procurable curdling essence is a great desideratum, and such Dr. Ashby asserts this to be.

Dr. F. T. Bond (*British Med. Journ.*, 1886, vol. ii., p. 213) advocates rennet powder for the same purpose as reliable and cheap.

4. Peptonising pellets.

These pellets, made by Messrs. Savory and Moore, are of the greatest possible use in the artificial digestion of milk for infants. They do away with all trouble in the process.

5. Rickets.

Kassowitz (*Jahrbuch f. Kinderheilkunde*, 1885, p. 352), whose previous researches on this subject are well known, has a paper upon the treatment of this disease by phosphorus, in which he dilates upon various faults in the administration of the drug, and he sums up: in spite of all—too small doses, frequent interruptions in treatment, too short duration of the treatment, &c., the good result is nevertheless incontestable.

6. Diarrhœa.

Dr. Braithwaite (*British Med. Journ.*, 1886, vol. ii., p. 107) recommends salicylate of iron as a successful means of treating a form of summer diarrhœa in children, characterised by unusual fecidity of the evacuations. About a grain each of sulphate of iron and salicylate of soda are given with a little glycerine and water every hour, until the stools are well blackened, and then every three or four hours. The disease is one which affects children from weaning to the age of four or five years. The dose is suitable to a child of two. The rationale of the treatment is the hypothesis that the bowel is by this means disinfected.

Dr. W. M. Millard (*British Med. Journ.*, 1886, vol. ii., p. 213) advocates 5 to 10 minim doses of the liq. hydrarg. perchlor. every hour or two, as equally efficacious and more palatable.

Dr. Douglas Morton (*New York Med. Record*, Sept. 18, 1886) also writes in praise of the liq. hydrarg. perchlor. given in doses of 3j. largely diluted. He also finds the nitrate of silver in doses of $\frac{1}{100}$ grain dissolved in distilled water, to which a little alcohol or aromatic tincture has been added, a very useful preparation.

7. Infantile cholera, &c.

Dr. Richard Pott and Dr. Diderich, of Halle (*Jahrbuch f. Kinderkrankheiten*, 1886, p. 73), give an account of their trial of coca preparations in the various forms of enteritis colitis, gastro-enteritis, and cholera nostras. A tincture was made of 1 part of the leaves and 5 parts of absolute alcohol. The children were under two years of age, and, according to the age, 5, 10, 15, or 20 drops were given pure or in syrup and water. The tincture has a brownish olive-green colour, is almost odourless, and tastes pleasantly aromatic. Children take it readily, and even in large doses no ill-effects were observed. The results are apparently striking. Even in cholera with collapse imminent, after an energetic use of the coca tincture for from twelve to twenty-four hours, improvement set in. After 50 to 100 drops of the tincture had been taken, vomiting ceased and the diarrhœa slackened. Full allowance is made for the ameliorating effects of careful dieting, and of the alcohol which the tincture contained.

8. Pyrexia.

Antipyrine has been lauded by several observers, and by Moncorvo has been given in large doses. No ill-effects were observed. It has been administered in acute rheumatism, bronchopneumonia, bronchitis, &c., with good effect. Dr. W. H. Day has lately spoken in favour of it (*Brit. Med. Journal*, 1886, vol. ii., p. 629) in moderate doses of 6 or 7 grains. It is, I think, a useful drug, but in my experience it has several times been followed by profuse sweating and considerable depression. I have given it in doses of 10 grains to young people of fourteen or fifteen years, and in 5 to 7 grain doses in children under ten years; $1\frac{1}{2}$ grains for each year of the child's life is the proportionate dose given in Martindale and Westcott.

In the *Jahrbuch f. Kinderkrankheiten*, 1885, p. 373, Dr. W. Jacobowitsch, of St. Petersburg, writes an elaborate paper on the action of antipyrine on the temperature and tissue changes of healthy and febrile children. He concludes that it accomplishes the purpose of lowering the temperature both in health and disease; that vomiting is seldom, that collapse and exhaustion are never present, while sweating does not always occur.

Thalline has been used by Steffen (*Jahrbuch für Kinderheilkunde*, Bd. xxv., p. 1) chiefly in typhoid fever, various diseases

of the respiratory organs, such as croupous laryngitis, bronchitis, croupous pneumonia, broncho-pneumonia, pneumonia with pleuritic exudation, phthisis pulmonum, scarlatina, diphtheria, and measles. It is easily taken in simple watery solution; it seldom causes nausea, or vomiting, or diarrhœa.

The temperature quickly falls after its administration, the drop being not seldom ushered in by marked cyanosis, and followed by profuse sweating, the latter more marked than in the case of other newly introduced antipyretics. The dose must be repeated, if after an hour no fall of temperature occurs. It sometimes fails, as do other drugs. The result depends somewhat upon the individual patient, and also upon the kind of disease. The best results have been obtained in typhoid fever, and diseases of the respiratory organs. In diphtheria, measles, and scarlatina, the results were more moderate. The duration of the apyrexia produced varied much, generally two to three, seldom five or six hours. Steffen sums up thus:—"According to the observations made by myself and others, thalline is a certain antipyretic, the dose of which will depend upon the patient, and the disease from which he suffers. The apyrexial period is short, and the drug requires to be repeated, and in so far the drug is at a disadvantage when compared with some other antipyretics. Nevertheless, in this it is pre-eminent: that remedies of this class seldom act as it does in so completely harmless a manner."

9. Scarlatina.

Some most important observations, bearing upon treatment, have been made by Mr. W. H. Power and Dr. Klein ("Report of the Medical Officer of the Local Government Board, Milk Scarlatina in London, 1885," *Practitioner*, vol. xxxvii., pp. 61—143, 1886), which go to show that in an outbreak of scarlatina in the area of distribution of a particular milk supply, the disease was caused by a disease in the cow. The inference would seem to be that here has been unbosomed the origin of scarlatina in man, and if so, the prevention of the disease is within practical range; if by no other means, by the simple expedient of drinking no milk that has not been boiled.

10. Diphtheria.

Mr. Davies (*Lancet*, 1886, vol. i., p. 684) insists on the success attending the administration of *large doses* of iron. He gives to children (age not stated) a dessertspoonful every hour of a mixture of 6 drachms of the tincture of perchloride to 5 ounces of sweetened water. This is continued for twelve hours, notwithstanding the occurrence of vomiting, by which time, or soon after, the membrane will have a shrivelled appearance, and the dose may then be decreased in strength and frequency.

Dr. Juan Beltrán Obiol speaks well of *Helenine* (*La Chronica Medica. Lancet*, 1886, vol. i., p. 709). It is soluble in alcohol and ether, and to the extent of 2 per cent. in oil of sweet almonds. The latter solution was painted upon the patches every four hours, after first applying powdered camphor. Complete destruction of the false membrane was quickly produced. The drug was also given internally in doses of $1\frac{1}{2}$ grain to children of six years of age. The only unpleasant result of the drug is constipation.

11. Pertussis.

Throughout the year there has been a general and continuous testimony to the value of antiseptics given in one way or another. **Professor Moncorvo's** treatment by resorcline, described in the "Year-Book" for 1884, has been the subject of careful trial by **Dr. W. H. Barlow**, of Manchester (*Lancet*, 1886, vol. i.), who speaks of it with approval.

Pott, of Halle (*Jahrbuch für Kinderheilk.*, Bd. xxiv., p. 73, 1886), has obtained striking success by painting the throat with a 5 to 10 per cent. solution of cocaine twice or three times a day.

On the other hand, **Dr. Emmett Holt** (*New York Med. Journ.*, Oct. 23, 1886), an observer of most reliable authority, has published several cases which show that cocaine must be used very cautiously, if at all, in young children. Encouraged by the favourable reports, **Dr. Holt** started with a 4 per cent. solution. In several cases, great restlessness and convulsive movements were produced. He sums up as follows:—Cocaine must be used with great caution on young children under all circumstances. The spray is never to be recommended. Solutions stronger than 4 per cent. should not be used by swab or pencil in children under two years, and in older ones only with great caution. Chloral seemed to be of very decided value in controlling symptoms due to cocaine.

Another novel treatment has been advocated by **M. Guerder** of Pont-carré, and **Herr Michael**, of Hamburg, viz., that by nasal insufflation. It is said to have been successful, and has certainly the advantage of ease of application. A fine powder of boric acid and coffee was used by **M. Guerder**; pulverised benzoine, quinine, and other remedies by **Herr Michael**. (*Brit. Med. Journ.*, 1886, vol. ii., p. 232; see also *Deutsche medicin. Wochenschr.*, Bd. v., 1886.)

Bachem, of Bonn (*Centralbl. für klin. Med.*, 24, 1886), also speaks highly of nasal insufflations of quinine.

12. Chorea.

Dr. F. Fruehwald (*Jahrb. für Kinderheilk.*, 1886, p. 43) has an article on the treatment of this disease by the subcutaneous

injection of arsenic. The children were obtained from Professor Widerhofer's clinic. The injection made use of was of equal parts of Fowler's solution and distilled water. Attention was paid to the freshness of the solution, and it was filtered always before use. A commencement was made with one minim, and this dose increased daily by a like quantity, until eight or even ten minims were injected, when the dose was diminished, as it mounted, by the daily decrease of one minim. The injection was made deeply after cleansing the skin with thymol water, each extremity taking its turn. Twenty-two cases were thus treated. Eighteen girls and seven boys are mentioned, but three had only internal treatment.

Redness of the skin and more or less long continued tenderness was produced in three cases; in two an abscess formed. Relief followed often in a remarkably short time, and in most cases the cure was complete in three or four weeks. Dr. Cheadle (*Practitioner*, 1886, p. 90), in dilating upon the influence of arsenic, if pushed both in time and quantity, calls attention to the occasional appearance of arsenical bronzing—in the most extreme form closely resembling the lighter staining of Addison's disease. A similar condition is recorded by Dr. Owen (*Med. Chron.*, 1886, p. 117).

13. Recurrent headache.

Dr. Russell Sturges (*Boston Med. and Surg Journ.*, 1886, p. 129) advocates 10 minim doses of the fluid extract of ergot, given three times a day after meals for at least a fortnight after the subsidence of the pain. The headaches, for which this remedy has proved of use, generally come on in the morning; the pain is localised to some particular part of the head, side, front, or vertex. It is severe, and may be attended with optical illusions of sparks, bands, or spots of colour—the headache, in fact, which most authorities regard as identical with migraine.

14. "Tubercular" inflammation in children.

Dr. Octavius Sturges (*Westminster Hospital Reports*, 1885, vol. i., p. 35) gives six cases treated by large doses of hypophosphite of soda. Dr. Sturges calls attention to these points:—1. The hypophosphite of soda may be given with perfect safety even to very young children, in doses from 10 to 20 grains, the larger dose being sometimes of marked service where the smaller fails. 2. The benefit of the drug in such doses applies particularly to chronic inflammations occurring in "tubercular" children, as well as to the wasting and pyrexia which, without any distinctly localised seat of mischief, sometimes precede the actual development of acute general tuberculosis in early life. Dr. Sturges adds that

the dose he has always prescribed is much larger than the official one. (The official dose given in the "British Pharmacopœia" is 5 to 10 grains.)

15. Incontinence of urine.

Dr. W. H. Day (*Brit. Med. Journ.*, 1886, vol. i., p. 291) gives some good results from a weak, interrupted current, one pole being placed over the sacrum, the other over the pubes.

CONTINUED FEVERS.

By SIDNEY PHILLIPS, M.D. LOND., M.R.C.P.,

*Assistant-Physician to the London Fever Hospital, and Physician-in-Charge of
Out-Patients, St. Mary's Hospital.*

1. Treatment of fever by antifebrine.

A. Cahn and P. Hepp (*Centralbl. f. klin. Med.*, Aug. 14, 1886) state at length the result of their experiments and observations upon this substance. They tried its effects on dogs and on rabbits, and also on patients suffering from typhoid fever, phthisis, and other diseases. They find that in febrile conditions, antifebrine produces a fall in temperature, commencing usually within an hour, and reaching the maximum in a period of four hours. The effect lasts for three to ten hours; moderate sweating and reddening of skin occur with the decreased temperature, as well as a fall in rapidity of pulse. Thirst and diuresis may occur. No disagreeable effects appear to be produced, though some patients become somewhat cyanotic. There is no vomiting or diarrhoea.

Antifebrine is $C_6H_5NHC_2H_3O$ or acetanilide, and therefore differs entirely in composition from antipyrine, thalline, and other artificially prepared antipyretics previously used. It is a white powder readily soluble in alcohol, less so in hot water, and nearly insoluble in cold water.

The authors recommend it in preference to antipyrine, as producing less sweating, and being cheaper. The dose is a quarter of that for antipyrine. As much as 60 grains have been given in twenty-four hours; but Drs. Cahn and Hepp gave only 4 to 15 grains for one administration.

2. Treatment of fever by local application of cold.

Grigorovitch (*Vratsch*, No. 24, 1886, and reported in the *Bulletin Gén. de Thérapeut.*, Sept., 1886) gives the result of his observations on the application of ice to the precordial region in typhoid fever. He states:—

(1) That ice applied over the cardiac region certainly lowers the temperature of the heart and influences its action.

(2) This influence is especially well-marked where the temperature is high and the heart's action is very excited.

(3) Cold has no effect on a heart's action in the last days of a long fever, when important changes have already been produced in the heart tissue, and the action of cold only prevents the evils of a high temperature when it is used from the commencement of a malady.

(4) Cold slows the heart and increases the force and fullness of the pulse.

(5) Ice applied to the cardiac region relieves the typhoid state, and acts favourably on respiration.

(6) The author has some grounds for believing that the ice lowers the general temperature of the body.

3. Treatment of fever by acids.

Dr. Ziegler (*Therapeutic Gazette*, Jan., 1886) remarks that in the search for new remedies, the acids, mineral, vegetable, and animal, are too often forgotten. *Hydrocyanic acid* is a potent antipyretic and febrifuge, and is specially useful in sthenic cases where cardiac, cerebral, and muscular excitability are present; its effects are decided and prolonged, and should be given in small and frequent doses, as aq. Lauro Cerasi (10 to 30 m.), or as the dilute acid (1 to 2 m. for a dose).

Hydrobromic acid is another active sedative antipyretic, but less energetic and depressing than hydrocyanic acid.

In asthenic types of fever *mineral acids*, and *lactic and citric acid*, are recommended as possessing, in addition to antipyretic powers, "a tonic and supporting character, and are also antiperiodic and disinfectant."

4. Treatment of fever by electricity.

Prof. E. De Reuze (*New York Med. Monthly*, Sept., 1886) experimented on the effect of electricity on fever, and summarised the results as follows:—

Within an hour or so after the application of electricity the temperature falls several degrees (though this fall may be preceded by a transient rise); the arterial pressure and force of the pulse are increased, and the skin reddens. Fevers of malarial origin resist the action most. The application is best made by holding an electrode in the hand, while a metallic brush in connection with the other pole is applied to the surface of the body.

5. Treatment of the typhoid state by benzoic and salicylic acid.

M. Robin (*Soc. Méd. des Hôpitaux*, June 25, 1886) advises the use of benzoic or salicylic acid in the condition known as the typhoid state. M. Robin, taking for granted that this condition

is the result of retained products of excessive nitrogenous decomposition in the body, shows that these products are excreted with difficulty on account of their insolubility, and suggests that benzoic or salicylic acid may combine with the nitrogenous products, to form soluble benzoates and hippurates. He has verified the fact experimentally that benzoate of soda does increase nitrogenous elimination of the urine in health. The same effect was produced by benzoic and by salicylic acid in five typhoid patients. M. Robin believes that the typhoid state then may in future be treated by administration of such substances as benzoate of soda, and salicylic acid, or, what he finds best, methyl-salicylic acid.

6. Abortive treatment of typhoid fever by naphthaline.

Götze (*Zeitschr. f. klin. Med.*, 1885, No. 1) reports, as the result of his observations on thirty-five cases of typhoid fever, that naphthaline sometimes aborted the disease, and in other cases shortened its course of the fever, and, in a third class of cases, that it curtailed the period, during which marked elevation of temperature occurred.

In some of the cases naphthaline reduced the temperature after antipyrine had failed to do so. The course of the cases taken together was very favourable, but in one case naphthaline intoxication was produced in the form of brain depression, and three of the cases died from severe complications. Götze gave 15 to 105 grains daily.

7. Treatment of typhoid fever by large doses of bismuth.

Dr. Reäl (*L'Union Méd.*, Sept. 28, 1884, No. 158, p. 531) advises that the fever should be treated from the first with repeated doses of subnitrate of bismuth. He gives it suspended in water; the dose must be sufficient to disinfect the motions, and must be regulated by their condition. He finds that 75 grains are usually necessary, and this requires to be repeated in some cases every hour. He also uses an enema of sublimate of bismuth with cooked starch.

As the fever advances less and less bismuth will be found to disinfect the stools.

Dr. Reäl claims that by this treatment the diarrhoea is often checked, and sometimes even constipation results.

8. Treatment of typhoid fever by warm baths and quinine.

M. Pécholier (*L'Union Médicale*, Aug. 5, 1886) asserts that by the use of quinine and warm baths typhoid fever can be checked and cut short to a maximum period of fourteen to sixteen days.

This conclusion is based on the success of the treatment in sixty-five consecutive cases under M. Pécholier's care.

9. Antiseptic treatment of typhoid fever.

M. Landouzy (*Gazette des Hôpitaux*, Oct. 19, 1886) says it must now be regarded as certain that Eberth's bacillus is the source of enteric fever; it has been obtained from the spleen of the living and the dead typhoid patient by means of aspirating needles, and has been cultivated in gelatine by Gaffsky; this bacillus passing into the blood, is the source of certain ptomaines or alkaloids, as proved by Gautier, and it is to the formation of these alkaloids that the chief symptoms are due. From this he infers that if we cannot prevent the introduction of the microbes into the blood, the indications for treatment are to prevent the production and absorption of ptomaines; and secondly, to facilitate their elimination. For the first purpose, intestinal antiseptics must be produced, and M. Landouzy recommends carbon and iodoform in the proportion of 200 to 1, or the use of salicylate of bismuth or naphthaline. Carbolic acid and salicylic acid he regards as inferior. The second aim in the treatment, *i.e.*, to assist elimination, must be to stimulate the action of the heart and kidneys, and he urges with much force the necessity of keeping up the heart force and arterial tension, if active renal excretion is to take place. He finds that a free allowance of liquid assists the elimination.

10. Treatment of typhoid fever by inhalations of cold air.

Dr. Alex. Sokoloff (*Voenna Meditz. Journ.*, Feb.—July, 1885) observed that patients with typhoid fever never suffered in any way from being in tents in which at night the temperature of the atmosphere often fell to -17° F., or even to -32° F., and no collapse ever ensued when the patient's temperature fell even from 104° to normal. He, therefore, made the experiment of introducing artificially-cooled air into the lungs by a Niemeyer's or other inhaler, with the result that in cases of typhoid fever the pulse lost in frequency and gained in force, while the respirations became slower, and dryness of the skin was relieved. The effect, however, was less than that of the cold bath, both in the fall of temperature and in its duration. He directs that the inhalations shall be administered once to three times daily, at a temperature of 27° to 10° F., each sitting to be of five to thirty minutes' duration. The author suggests the use of the inhalations also in bronchitis and asthma.

11. Treatment of typhoid fever by enemata.

Dr. Fournier (*Bulletin Gén. de Thérapeut.*) combats the advice

of Desplats, of Lille, to use enemas of carbolic acid ; it is true it may reduce the temperature considerably, but Dr. Fournier has seen it give rise to rigors, sweats, and coma.

12. Treatment of typhoid fever by saline aperients.

Dr. Fournier (*loc. cit.*) describes the favourable course of typhoid cases treated by daily morning doses of sulphate of magnesia. His theory is that the secretions of the intestine decompose and produce irritation, and should be expelled. Seidlitz powder was administered every morning, and afterwards a small simple enema.

13. Whey in typhoid fever.

Dr. Burney Yeo (*Lancet*, Feb. 13, 1886) comments on the frequent occurrence of intestinal pain, accompanied by large semi-solid motions in patients with typhoid fever who are on a milk diet. This is attributable, as pointed out by Sir W. Jenner, to the formation of hard curd, and Dr. Yeo finds that whey made by boiling milk with a little lemon-juice prevents the unfavourable effects.

14. Influence of albuminous diet in typhoid fever.

Dr. Lauder Brunton (*Pract.*, Sept., 1885) cites Brieger's results on the cultivation of the typhoid bacillus ; he found that cultivations of it in beef-tea produced an exceedingly poisonous alkaloid ; possibly beef-tea and such albuminous diet is injurious on this account in the treatment of typhoid, and a milk diet is preferable.

15. Treatment of typhus fever by enemas of carbolic acid.

Dr. A. P. Solonoff (*Proceed. E. Siberian Med. Soc.*, 1885, p. 92) has tried the use of these enemas in six cases of typhus fever ; each enema consisted of two fl. oz. of a 1 per cent. solution of carbolic acid, and was administered every two hours. He finds that the enemas produce no tenesmus, and are all absorbed ; that a fall in febrile temperature of 2 to 10 degrees results, commencing in fifteen minutes, and lasting two hours or more ; no toxic effects were ever produced, and they are more effective than quinine, which often fails to act in typhus fever.

The author adds, that simple cold water enemas will also reduce the temperature, but the temperature rises again much more rapidly than after injections of carbolic acid, and the former has the disadvantage of being often at once rejected.

16. Treatment of diphtheria by bromine and iodine.

Kramer, of Amsterdam (*Centrabl. f. klin. Med.*, Dec., 1885), claims to have made very successful cures by brushing the throat

night and morning with each of the following solutions : bromide of iodine, bromide of potassium, each 1 part, water 200 parts ; the second solution consists of carbolic acid, 1 part, rectified spirit and glycerine, each 25 parts. He uses these as prophylactics during an epidemic, but when the disease is actually present he applies the first solution in double strength every hour, and the second solution thrice daily.

He also adds to the treatment the administration of benzoate of sodium in 2 to 4 drachm doses three times a day, and blows the same drug into the throat three times daily.

It is difficult to see how such continuous and multiple applications could be borne by the patient.

17. Treatment of diphtheria by peroxide of hydrogen.

Hofmøhl, of Vienna (*Wiener Med. Presse*, vol. xxvii., Nos. 18 and 19, 1886), acting on the recommendations of Vogelsang, administered peroxide of hydrogen to a certain number of diphtheritic patients. His prescription is 200 parts of a 2 per cent. solution of peroxide of hydrogen with 30 parts of pure glycerine ; one drachm to be administered every two hours internally. He combines with the internal administration inhalations with the peroxide. He claims that the disease is very successfully treated in this way, and suggests that nascent oxygen is liberated in the blood and favours nutrition.

18. Treatment of diphtheria by the actual cautery.

Dr. Bloebaum (*Deutsche Med. Zeitung*, No. 37, 1886) and Henoch (*Schmidt's Jahrbücher*, vol. ccix., p. 49) report in high terms of the favourable results following the local application of the actual cautery to the membrane in diphtheria. Henoch uses Paquelin's cautery, and declares chloroform to be indispensable for the operation. Others have used other means and dispensed with anæsthetics. Dr. Bloebaum narrates several cases in which the local destruction by cautery of the deposited membrane has been rapidly followed by decline of other symptoms.

19. Treatment of diphtheria by papaine.

Papaine is obtainable as a powder from the juice of the fruit of *carica papaya*.

The Journal of Soc. Chem. Industries, 1885, p. 591, and 1886, p. 390, gives information relating to it quoted in *Med. Chronicle*.

Professor Finkler has experimented upon it, and finds that the papaine preparations dissolve albumen, but that the action is not one of simple solution ; they act rather as ferments, for a very small quantity of the papaine preparation will dissolve a large amount of albumen, changing it at the same time into a peptone.

Experiments show that papaine will readily dissolve white of egg or fibrine, a temperature of 40° to 50° being the most favourable. Papaine dissolves in water, and its solution is recommended by Prof. Finkler and Dr. Schoffer (*Berliner klin. Wochenschr.*) as the best solvent of diphtheritic (and croupous) membrane.

Dr. Schoffer paints the surface with a 5 per cent. solution of papaine every five or ten minutes; the membranes are said to be thus removed in a few hours, and the fever to disappear.

Prof. Finkler paints the surface attacked by the membrane about five times in the twenty-four hours; he recommends its use in combination with salicylic acid, which also possesses the power of dissolving diphtheritic membrane; and he agrees with Schoffer in stating that the fever disappears with the membrane.

20. Treatment of diphtheria by acetic acid.

F. Engelmann (*Centralbl. f. klin. Med.*, Aug. 3, 1886) asserts that acetic acid equals carbolic acid in antiseptic power. He made experiments on bacterial cultures with two liquids, and found that the addition of 3 to 10 parts of vinegar to these fluids arrested development of microbes, whereas a $2\frac{1}{2}$ per cent. solution of carbolic acid had to be added in equal quantity to the fluid to stop decomposition.

He, therefore, recommends the employment of acetic acid or of common vinegar, in gargles of 1 in 4 parts, or in fumigations of equal parts of it and water, in diphtheria. He affirms it to be more manageable and more free from danger than other antiseptics.

21. Treatment of diphtheria by antiseptic fumigations in an atmosphere kept at 69° to 74° F.

Dr. Bouchard (*Gazette des Hôpitaux*, Jan. 26, 1886) describes the treatment of a case of severe diphtheria by surrounding the bed with curtains, and keeping the room at a temperature of 70° or over for many days. During this period he employed crystallised carbolic acid, salicylic, and alcohol and water to disengage fumes. The case recovered, and, so far as a single case can go, was in favour of the treatment.

22. Treatment of diphtheria by apomorphia.

Mr. J. Mercer (*Lancet*, Oct. 30, 1886) advises that, after internal administration of iron and chlorate of potash, emetics be given, such as apomorphia, which will much relieve urgent dyspnoea, a gargle of potassic chlorate to which hydrochloric acid and water is added, so as to evolve chlorine gas.

23. Treatment of diphtheria and scarlet fever by bin-iodide of mercury.

Dr. C. R. Illingworth (*British Med. Journ.*, May 1 and Oct. 30,

1886) recommends the bin-iodide of mercury as a specific and prophylactic for scarlet fever and diphtheria. In scarlet fever defervescence commences immediately upon its administration, and desquamation does not occur; in diphtheria it causes disappearance of membrane and reduction of temperature. Dr. Illingworth believes that its efficacy "depends on the diffusible potassic iodide carrying the germicide bin-iodide to every portion of the circulation." He prescribes sol. hydrarg. bichlor. with pot. iodid., and ammonio-citrate of iron.

24. Intubation of the larynx for diphtheria.

Dr. O'Dwyer (*New York Med. Jour.*, vol. iv., p. 145) describes his experiences in the treatment of diphtheric obstruction to breathing, by the introduction of indiarubber tubes into the trachea. Bouchut, in 1858, attempted the same means, but soon gave it up. Dr. O'Dwyer, after numerous trials of tubes of varying shapes and lengths, recommends a tube of $1\frac{3}{4}$ to 3 inches in length, according to the age of the child; the tube should reach to about $\frac{1}{2}$ inch from the tracheal bifurcation; it is arranged in the form of a bivalve similar to the bivalve speculum, but elliptical in shape, and the narrow transverse diameter is enlarged about half way down the tube, so as to become cylindrical. This prevents the tube being coughed out. The upper extremity of the tube has a slight posterior curve, so as to look away from the epiglottis when *in situ*. To introduce the tubes the child is held upright in the arms of the nurse, and a gag is inserted in the left angle of the mouth. An assistant holds the head, while the operator inserts the index finger of the left hand to elevate the epiglottis, and direct the tube into the larynx. The tube itself is passed downwards into the trachea by means of a guide which passes through it, and is abruptly curved. The tube has attached to it a piece of silk to remove it, and should it be pushed into the œsophagus; but, when the tube is once inserted in the trachea, the silk must be withdrawn, or will excite irritation. The tube may remain in the trachea for several days. It is claimed for this treatment that, while less severe than tracheotomy, requiring no incision or wound, it is quite as, or more, effectual in relieving dyspnœa. Several cases recorded by Dr. O'Dwyer (*loc. cit.*), by Northrup (*New York Med. Journal*, April, 1886), Dillon Brown (*New York Med. Record, idem.*), by Lewis Smith (*Amer. Journ. Med. Sciences*, April, 1886), support the treatment by intubage, which frequently rapidly relieved the dyspnœa and tendency to collapse of lungs.

25. Treatment of small-pox by sodium salicylate.

Reimer (*loc. cit.*) speaks favourably of the internal administration

of sodium salicylate in 5 to 10 grain doses; he claims that it arrests development of the pustules.

26. Summary.

During the past year the suggestions for the treatment of the various exanthematous fevers have, as will be seen, been very numerous. Some of these means, however, are merely revivals of former methods of treatment, others are adaptations of new reagents to recognised principles, and many, however plausible, are scarcely practicable. In the last "Year-Book," the results of prolonged and careful investigations on the physiological action of *antipyrine* and allied antifebrile drugs were recorded. Since then they have been freely used in the treatment of febrile diseases, and reports on their action have proceeded from all parts of Europe and from America. These reports acquire the more value as they come not only from administrations to a large number of patients in very varied diseases and conditions, but are the records of numerous and independent observers.

The chief clinical reports on the subject are those of **Beyer** (*Internat. Journ. of Med. Sciences*, April, 1886); **Wiegandt** (*Centralbl. f. med. Wissenschaften*, Jan. 21, 1886); **M. Umball** (*Archiv f. experim. Pathol. und Pharm.*, Bd. 19, 1886); **S. Leoche** (*Centralbl. f. klin. Med.*, Aug. 7, 1886); **Frankenberg** (*New York Med-Record*, May 22, 1886); **Brigade-Surgeon Hamilton** (*Ind. Med. Gaz.*, Aug., 1886); **V. Jakubovitch** (*Russkaia Meditzina*, 21—23, 1885); **I. Parlinoff** (*Meditzin Vivie Obozrenie*, Fasc. xii., 1885); **Dr. S. Welt** (*Archiv f. klin. Med.*, Dec., 1885); **Israel** (*Hospitals Tidende*, Series 3, Bd. ii.); **Wichmann** (*Ugeskrift f. Laeger*); **Suyers** (*Ann. de la Soc. Méd. Chir. de Liège*); **Reihlen** (*Deutsches Archiv f. klin. Med.*, April 22, 1886); **Eccles** (*New York Med. Journ.*, Oct. 24, 1885).

From their results and from those of other writers the following may be summarised of antipyrine:—

- (1) It reduces the temperature in every condition of disease.
- (2) Its action is very powerful, the fall in temperature ranging from 1° to 10° F.
- (3) Its action is rapid, commencing from a quarter of an hour to three hours after administration, and the maximum effect being reached in three to four hours.
- (4) The temperature remission is not of prolonged duration.
- (5) The pulse in almost all cases falls with the temperature, and arterial pressure usually decreases to a small extent at the same time (in some cases there seems to occur but little alteration in arterial pressure).

(6) It acts as a tonic to the auricles and ventricles of the heart.

(7) It is eliminated by the urine, where it is readily detectable by perchloride of iron, and is entirely eliminated within thirty-six hours.

(8) Sweating, often profuse, accompanies the fall in temperature.

(9) It decreases tissue metamorphosis, the urea and other products of its destruction becoming lessened in the urine.

(10) It is well borne by children.

(11) In a few persons tolerance of the drug is established after a few doses.

(12) Collapse very rarely occurs, and is usually the result of too large or too often repeated administration.

(13) A rash, resembling measles, or in some cases scarlet fever, may be produced by it, but is no indication for discontinuing the antipyrine, and soon passes off.

(14) Vomiting and diarrhoea are very rare, and intestinal hæmorrhage in typhoid fever is not increased by it.

(15) The dose should not exceed 30 grs., and less should be at first given to children; 1 gr. for each year of age is usually sufficient; it may be given in doses repeated to keep down the temperature.

The action of *kairine* in fevers has been the subject of numerous reports, but from these it seems generally agreed that, though it acts powerfully in reducing temperature, it is dangerous and objectionable from its destructive action on the blood corpuscles, and its action in weakening the heart. *Thalline* and *hydrochinon* are very uncertain in their apyretic action.

From the reports in reference to *resorcine* as an antipyretic (S. Welt and others) it would appear to be equally unreliable and dangerous.

Recently antifebrine (*v. p.* 102) has been advocated as an antipyretic, and, as far as can be said at present, seems to act powerfully and in a smaller quantity than antipyrine.

The author has made trials of antifebrine in cases of typhoid fever, scarlet fever, measles, and pneumonia. In all the cases the temperature fell very soon after administration, and the sweating produced was decidedly less than that after antipyrine. He has found that 5 grains is sufficient for an adult, and 1 or 2 grains for young children. The drug will dissolve best in water to which a little brandy or rectified spirit is added.

Antipyrine and antifebrine have the advantage over quinine of much more *rapidly* acting, and are therefore of greater use to

contend against a temperature rapidly rising towards hyperpyrexia. At the same time no tinnitus aurium or deafness are produced by them, and it has become evident that the collapse which was recorded after administration of antipyrine, is nearly always the result of a too large or frequently repeated dosage; if 30 grains be not exceeded collapse will be a very rare occurrence.

The point on which M. Landouzy insists (*loc. cit.*), that it is of importance to keep up the action of the heart and the arterial tension, in order to insure effective elimination, is a very important one, not only in typhoid fever to which he alludes, but in all febrile conditions; possibly the albuminaria which occurs in fevers is in part due to want of free arterial circulation through the kidneys in consequence of weakened cardiac action, since Charcot has shown that a slowing of the renal circulation may lead to the presence of albumen in the urine. It is therefore of great importance to keep up the heart force. From some cases, observed by the author, the ice bag applied to the cardiac region may, as suggested by Grigorovitsch (*loc. cit.*), assist in doing this.

In the special treatment of *typhoid fever*, since evidence increases that its symptoms may be due to the ptomaines or alkaloids resulting from the presence of the bacillus of Eberth, which has been obtained during life from the spleen by means of a hollow needle, treatment has been based on the endeavour to neutralise and eliminate these products. For this purpose **Lancereaux** (*loc. cit.*) employs antiseptics, such as salicylate of bismuth, but it has yet to be proved that this or any drug can be introduced into the human organism in such a state as to have any destructive action on the poison.

In the treatment of diphtheria many re-agents have been applied, with the intention of destroying the local manifestation, which may lead, it is thought, to the subsequent blood condition. Of these, the actual cautery is highly lauded by its advocates.

GENERAL SURGERY.

PART I.

BY THOMAS BRYANT, F.R.C.S.,

Surgeon to, and Lecturer on Surgery at, Guy's Hospital.

1. The treatment of wounds.

Surgeons have been working during the past, as in former years, to perfect their modes of dressing wounds, and from the extracts given below it will be seen that their chief object is still to find a light, cheap, and effective absorbent antiseptic dressing to take up the fluids poured out from a wound, and, at the same time, to preserve them from undergoing chemical and consequently septic changes; a dressing that will inhibit the development of, if not destroy, the germ element. Corrosive sublimate under these circumstances is still much used, more particularly in its dry form when mixed with wood or absorbent wools. I have found no reason, however, to give up my iodine dressings; indeed, I have become more satisfied with their value, and have reason to believe that other surgeons are in accord with me.

2. Dressings for wounds.

Lücke (*Deutsche Zeitschr. f. Chirurgie*, Bd. xxii., and *London Med. Record*, 1885, p. 477) has used a dressing of sugar prepared in the following way:—A layer of powdered sugar, $\frac{1}{2}$ centimetre thick and large enough to extend 10 cms. beyond the wound, is spread on and folded in a piece of muslin free from grease. A thick layer of muslin is placed over the wound, and then the sugar dressing is applied, over all being placed a sheet of guttapercha, the edges of the dressing being guarded with cotton-wool. The dressing is undisturbed for 6 to 8 days, unless fever sets in, and a fresh sugar dressing is applied when the drainage-tubes are shortened and the sutures are removed. Lücke has used this dressing in 202 patients, of whom only one died from infectious disease.

3. Filtering paper as a dressing.

Bedoin (*Bullet. de Thérapeut.*, 1886, p. 165) has used filtering paper as an antiseptic dressing. He disinfects it at 120° C., afterwards steeps it in an antiseptic solution and dries slowly. Seven or eight sheets are superposed on the surface of the wound and lightly bandaged. This application has the advantage of being very light, and may be carried in a soldier's knapsack.

4. Dry dressings.

Maylard (*Glasgow Med. Journ.*, March, 1886, p. 169) considers that better results are obtained when antiseptics are applied to a wound in the dry state than when the ordinary wet method is used. He cleanses the wound with a weak bi-chloride solution, and then dries it as effectually as possible. A loose pad of absorbent wool, dipped in weak bi-chloride solution and dried, is then applied either directly to the wound or after sprinkling the wound with iodoform. Over this and beyond it a layer of Gamgee tissue, similarly impregnated, is placed, and on this a further layer of greater strength. A coarse muslin bandage is then applied so as to produce considerable pressure at the margins of the dressing, but only slight pressure over the wound, while the edges should be further secured by an indiarubber bandage.

Kendal Franks (*Annals of Surgery*, vol. iii., p. 122) also advocates dry dressing, but uses wood-wool wadding made of eight parts of wood-wool and two parts of absorbent cotton, prepared with corrosive sublimate in a strength of not less than 1 in 1000.

5. Dry dressings for internal cavities.

Dr. Hutchinson (*Lancet*, 1886, vol. i., p. 300) recommends that drugs intended as "dry dressings" should be enclosed in hollow cacao-butter suppositories, provided with a cap. This is introduced into the vagina, or rectum, as the case may be, and when the capsule melts, the contents are applied in the dry form to the part affected. Dr. Hutchinson recommends, as a styptic, iron-alum, and, as a dressing, iodoform with or without morphia.

6. Arrest of hæmorrhage.

The arrest of capillary oozing, as an aid to the quick union of wounds, has also received attention, and most worthily. My own method is the application of hot sponges wrung out of iodine water, and it is most efficient and simple.

In the *Lancet* (1885, vol. ii., p. 647) will be found an account of a styptic, which is favourably reported. A French physician, Dr. Mennier, reported, some time ago, a case of hæmorrhage lasting nine hours, which was stopped by drinking an infusion of the common nettle, *urtica dioica*. Dr. Rothe, of Berlin, has experimented with an alcoholic fluid extract of the young plant, as an

external hæmostatic. He finds that when applied to a wound, on cotton-wool, it promptly arrests hæmorrhage, if this does not proceed from a very large vessel, and the clot produced is soft and consistent, but not crumbling. In several hundred cases of epistaxis, the bleeding was always arrested within half-an-hour. In all cases of parenchymatous hæmorrhage, such as after the extraction of a tooth in minor operations, and in non-puerperal hæmorrhage from the mucous membrane of the uterus, it is of great use. As an application to cuts, it is specially recommended, since, in addition to its hæmostatic powers, it seems to act also as an antiseptic, probably from the large amount of alcohol in the extract.

M. Malcolm (*Lancet*, 1885, vol. ii, p. 700), however, points out that this is not a new styptic, but was recommended in Thornton's "Family Herbal" in 1814.

7. Chloroform as a hæmostatic.

Betz (*Memorabilien*, 1885, No. 5; and *Practit.*, April, 1886, p. 292) relates his experience of the local action of chloroform as a hæmostatic. He has used it for uterine hæmorrhage with great effect, and finds that it differs from ordinary astringents in that it does not induce coagulation of the blood directly, but causes narrowing and closure of the blood-vessels, by muscular contraction.

8. Chronic abscesses.

The want is still felt of some simple and efficient lotion, with which to wash out the cavities of chronic abscesses, after the free evacuation of their contents. Iodine solution is my favourite, but if a good solution of iodoform could be found, an advance would be made. The ethereal solution is the only one we have, and such is too stimulating for general use.

Verchère (*Rev. de Chir.*, June, 1886) gives his experience of twenty-three cases treated by the injection of ethereal solution of iodoform into an abscess cavity, according to the method of Verneuil. If the skin over the abscess is fairly normal, the pus is drawn off, and the solution injected through the same opening. If, on the other hand, the skin is thin or inflamed, separate openings should be made for the removal of the pus and the injection of the iodoform. The solution varies in strength, large abscesses being best treated by a 5 per cent. solution, small ones by 10 per cent., and small superficial abscesses by saturated solution of iodoform in ether. Swelling may immediately ensue from volatilisation of the ether, but the after-results are good.

9. Cold abscesses.

Andrassy (*Beitrag zur klin. Chir.*, Tübingen, 1886) gives the

result of Billroth and Verneuil's treatment of cold abscesses by iodoform, as practised in the Tübingen Clinique. In Vienna, 10 grammes given in emulsion in glycerine has been found to be the maximum dose at one injection. In Tübingen there has occurred no case of poisoning by iodoform after this treatment, but there has nearly always been a little pyrexia after injection. The larger the abscess cavity, the weaker was the solution injected. Fränkel's recommendation that the treatment should not be used when the abscess is about to burst is not followed by Andrassy. The seat of puncture is closed with iodoform-collodion and wool, the whole being kept in place with plaster and bandage. It is often necessary to repeat the operation every fourteen days, but usually only two or three injections are required. The time taken for healing is about four or five weeks. Occasionally water is used instead of glycerine for making the emulsion, since glycerine is not easily absorbed.

10. Fistulous ulcers.

Cecchini (*Centrabl. f. Chirurgie*, 1886, p. 1) has used turpentine oil in the treatment of fistulous ulcers with excellent effect. He has tried it in rectal fistula, dental fistula, fistula of Steno's duct, in various atonic fistulæ, and also in four cases of caries of the temporal bone. He injects the turpentine once in every three or four days by means of a cannula and syringe. The application is somewhat painful, but not, Cecchini says, unbearably so, while, if necessary, the oil may be diluted with almond or olive oil. Cecchini has also used turpentine successfully in the treatment of post-mortem ulcers and wounds.

11. Cholecystotomy.

This is an operation which has been in great favour, and, I believe, rightly so. The results of the practice have been marvellously favourable in experienced hands, and there is reason to hope that future work in that direction will not be less so. The following papers are all worthy of study.

Mr. Lawson Tait (*Lancet*, 1886, i., p. 296) publishes five cases of this operation, making a total of twenty-one in which recovery had taken place. He refers to a paper by Bernays, of St. Louis, in the *Weekly Medical Review* for Oct. 31, where the author describes three operations upon the gall-bladder. Firstly, "Ideal Cholecystotomy," in which the gall-bladder is allowed to drop back into the abdomen after the operation; secondly, "Natural Cholecystotomy," where, before opening the gall-bladder, adhesions are established between it and the abdominal wall, and a fistula is afterwards formed; and, thirdly, "Cholecystectomy," where the gall-bladder is entirely removed for incurable or malignant

disease. The last operation Mr. Lawson Tait considers should be very rarely recommended. The first operation also is thought to be ill-advised, since, if suppuration occurs, or the bile-ducts be not obliterated, pus or bile may find exit into the peritoneum. Moreover, if another gall-stone should form, a completely new operation must be performed. Hence Mr. Lawson Tait prefers the second operation, which he himself practises.

Hofmokl (*Wiener med. Presse*, 1885, No. 48-50), describes a successful case of cholecystotomy, and gives his opinion on various points connected with the operation. His patient was thirty-nine years of age, and had suffered repeatedly from icterus and colic. For two months, during which time the colic had been specially troublesome, a tumour in the region of the gall-bladder was discovered. The diagnosis rested between dropsy and empyema of the gall-bladder and echinococcus of the liver or omentum. At the operation, the tumour was found to be adherent to the omentum at its lower end, and an exploratory puncture was made, by which 150 grammes of greyish-white cloudy fluid were withdrawn. An incision was made into the tumour, through which thirteen gall-stones were removed, and the gall-bladder was washed out with sublimate solution, but no bile was removed. A drainage-tube was inserted into the gall-bladder. Later, four more stones were removed, and twenty days after the operation bile for the first time flowed from the fistula, and also at the same time showed itself in the intestine. Finally, the fistula had to be closed by operation.

Hofmokl insists that cases of gall-stones, or of cicatricial stricture of the biliary ducts, are alone suitable for operation, and not new growths or abscess of the ducts. Where the ductus choledochus is closed, he recommends that a fistula should be established between the gall-bladder and the small intestine, as first performed by Winiwarter. Where the walls of the gall-bladder seem healthy, Hofmokl believes it better to perform simple cholecystotomy, but if they are altered, or if there is hard cicatricial obliteration of the ducts, then it is better to extirpate the gall-bladder. He further advises that the fistula should not too soon be closed, as more gall-stones may be removed than appear at the time of operation.

Landerer (*Münchener med. Wochenschr.*, 1886, No. 17) describes a case of cholecystotomy in a woman thirty-five years of age, where the gall-bladder was adherent, not only to the abdominal wall, but also to the underlying colon. It was necessary, therefore, to open the gall-bladder by perforating the overlying liver tissue. The liver was first stitched to the anterior abdominal wall, and

five days later a trocar was plunged into the gall-bladder through the liver tissue, and a drainage-tube was inserted. The opening, however, required to be enlarged by the thermo-cautery, and then the gall-bladder was washed out with weak sublimate solution, and later with tincture of iodine. The patient was relieved of pain, and a small fistula was left which gave exit to a little mucus, but was not troublesome.

Boeckel (*Revue de Chirurgie*, No. 10, 1885) considers it a perfectly safe operation to clear out the gall-bladder if an external fistula is always established. Where there is no such fistula, Boeckel believes the operation to be uncertain in its results, for complications may be present which cannot possibly be diagnosed, and which may defeat the object of the operation. He mentions a case which died after cholecystotomy, and in which the autopsy revealed complete blocking of the small bile-ducts by concretions. In any case he considers that cholecystotomy is to be preferred to excision of the gall-bladder.

Professor Buchanan (*Brit. Med. Journal*, 1886, vol. i., p. 872) records a case in which the gall-bladder was adherent to the abdominal wall by a thick band of fibrous tissue. On opening the gall-bladder a quantity of brown purulent fluid was removed, and also a number of smooth gall-stones. The cavity was washed with tepid water, but no opening into the bile-duct could be discovered. Nevertheless, in two months' time, after a rigor and attack of feverishness, a gush of pus tinged with bile issued from the fistula, which had remained since the operation. Then a gall-stone was spontaneously discharged, and subsequently two other gall-stones came away. The operation immediately removed the pain and vomiting, which previously troubled the patient.

Mayo Robson (*Brit. Med. Journal*, 1885, vol. ii., p. 833) describes two successful cases of this operation; in each a slight fistula remained, but as it discharged clear mucus, it was not thought desirable to interfere with it.

Lange, of New York (*Annals of Surgery*, vol. iii., p. 381), records a case of cholecystotomy, in which he not only opened the gall-bladder, but removed a stone from the ductus communis. To effect this he was compelled to separate the colon from its attachments, physiological and pathological, to the lower surface of the liver, and then was able to push back the stone into the gall-bladder. The patient died three days after the operation.

Keen (*Philadelphia Med. Times*, 1885, No. 14) relates a case of cholecystotomy which ended fatally. The patient was a man, aged forty-three years, who had suffered often from gall-stone colic. Underneath the right ribs there was a soft elastic tumour,

which was diagnosed as the large gall-bladder, and in which, by means of needle and fine trocar, a stone was found. An incision was made about three inches long, beginning $1\frac{1}{2}$ inches below the ensiform cartilage, and running to the right parallel to the ribs. It was then found that the tumour diagnosed was really the enlarged left lobe of the liver. The wound having been enlarged, no gall-bladder could be found; but a mass of stony hardness could be felt deep down a little to the left of the vertebral column. Near to this a soft body was felt, which was again diagnosed as the gall-bladder, and it was supposed that the hard mass was composed of gall-stones blocking the biliary passages. An incision was, therefore, made into the soft body, and it was then found to be the duodenum. The wound thus made was then stitched up and a further incision was made into the hard mass, which was now discovered to be an atrophied gall-bladder, containing gall-stones. The gall-bladder was sutured, and all anti-septic precautions were observed. The operation lasted three hours, and death from shock occurred on the following day.

Golzi (*Lo. Sperimentale*, 1886) has determined by experiments on animals certain points which are of importance in connection with the operation of cholecystotomy. He has shown that:—

1. A permanent union can be established between gall-bladder and intestines.
2. In such union, serous membrane unites with serous membrane, and mucous membrane with mucous membrane.
3. No inflammation of the gall-bladder results from its communication with the intestines.
4. Only very slight functional digestive disturbances result from such communication, and in time the ductus choledochus becomes dilated, and forms a substitute for the gall-bladder.

12. Diagnosis and extraction of a fork in the stomach.

M. Polaillon, at the *séance* of the Académie de Médecine, on the 24th of August, related the history of a case which in many points is worthy of notice (see *Archives Générales de Médecine*, Oct., 1886, p. 503). A patient, who came under the care of M. Polaillon, stated that he had swallowed a steel fork. Palpation of the abdomen and the introduction of the œsophageal sound gave no results. A magnetised needle of extreme delicacy showed an inclination towards the stomach region, when the patient approached it, and followed the movements of the patient. Also, a strong electro-magnet placed at some millimetres' distance from the abdominal wall, as soon as the current was allowed to pass, produced a sudden elevation of the skin over the stomach, "as

if some body in the interior of the abdomen was projected towards the magnet." The fork, which was removed, measured 21 centimetres in length, and weighed 59 grammes.

An incision was made from the ninth rib of the left side, a centimetre internal to the costal cartilages, and directed towards the xiphoid cartilage, for 7 centimetres. Instead of suturing the stomach to the anterior abdominal wall, previous to opening it, M. Polaillon, on exposing the stomach, first removed the foreign body, and then after uniting the edges of the stomach incision, returned the organ to the abdomen. This method, as is known, succeeds in the case of intestinal wounds, and was also successful in the present case.

GENERAL SURGERY.

PART II.

BY FREDERICK TREVES, F.R.C.S.,

Surgeon to, and Lecturer on Anatomy at, the London Hospital.

1. Operations on the brain.

During the past year no advances in surgery have excited more interest than those effected in the operative treatment of tumours of the brain and of traumatic epilepsy. Cerebral localisation has opened out a new field to the surgeon, and already the results are more than promising, owing in great part to the boldness in operating which the knowledge of antiseptics has engendered.

Mr. Victor Horsley, in an important communication to the British Medical Association (*British Medical Journal*, October 9, 1886), records three cases of operation on the brain, two for traumatic epilepsy, and the third for a cerebral tumour.

(1) Thomas W., æt. twenty, began to suffer in January, 1884, from convulsive seizures, commencing in the left thumb and forefinger; as these became more severe, they were followed by loss of power in the left arm, with exaggerated deep reflexes in that limb. Although two cardinal symptoms of cerebral tumour—optic neuritis and severe headache—were absent, from the nature of the convulsive movements the existence of an irritative lesion in the right ascending frontal and parietal convolutions was confidently diagnosed; and on June 22, 1886, Mr. Horsley trephined over the parts mentioned. A tumour was found in the cortex, about half an inch wide, but extending into the subjacent white matter at the junction of the lower and middle thirds of the two convolutions. The tumour and the surrounding part of the brain, including the "thumb-centre," were freely excised, several vessels were ligatured, and the wound closed. Next day the left side of the face was partially, and the left arm completely, paralysed; but this condition gradually passed off, slight loss of power in the hand

and exaggeration of the deep reflexes alone remaining. The wound healed rapidly. The tumour was tubercular in nature.

(2) A young man, as the result of a depressed fracture of the skull, became subject to severe epileptiform seizures, of which the aura was entirely abdominal. This pointed to a lesion at the hinder end of the superior frontal sulcus, and agreed with the site of the former injury. On trephining, the dura mater was found to be torn by a fragment of bone, and beneath this was a small cavity in the brain filled with fluid and connective tissue. This cyst was excised, the wound healed in four days, and after an attack of hysterical paralysis of the right arm the patient rapidly recovered, and ceased to be liable to convulsions.

(3) James B., æt. twenty-two, sustained when a boy a severe compound depressed fracture of the left parietal bone, and a few years later became epileptic, the fits sometimes numbering 3,000 in a fortnight, and being always right-sided. In May, 1886, the bone round the old opening was freely removed, as well as a dense scar involving all the tissues from brain to skin. Some paralysis of the right arm followed, but gradually cleared off, and no fits occurred after the operation.

Mr. Horsley's paper includes many interesting physiological deductions from these cases, and also an account of the method of operating which he prefers; it will suffice here to notice only the chief points with regard to the latter. Chloroform should be the anæsthetic, and before it is administered morphia should be injected hypodermically, since it has been found that this drug produces prolonged contraction of the cerebral arterioles. The old crucial incision of the scalp is abandoned in favour of a single semilunar flap, the base of which includes the chief vessels of that region. The periosteum is then divided and reflected, and a trephine with a diameter of two inches is employed.

All incisions in the brain should be vertical to the surface, and any bleeding vessels should be tied. Mr. Horsley condemns the use of the cautery in checking hæmorrhage. Finally, the dura mater can sometimes be sutured, and the fragments of the bone which were removed by the trephine replaced in small pieces. Strict antiseptics—carbolic spray, thorough cleansing of the scalp before operation—are strongly advised, and a drainage-tube should not be left in for more than twenty-four hours.

I think the two-inch trephine a somewhat uncouth instrument, and would suggest that it be replaced by the surgical engine introduced by American dentists. With this instrument the skull can be sawn through with rapidity and precision.

Dr. Hirschfelder (*Pacific Med. and Surg. Journ.*, April, 1886)

removed a soft glioma from "the motor area" after trephining, the patient dying on the seventh day.

Mr. Rickman Godlee (*Med. Chir. Transactions*, vol. lxxviii.) removed a glioma from the ascending parietal convolution, the position of the tumour having been diagnosed from some of the patient's symptoms—spasm of the opposite facial and lingual muscles followed by their partial paralysis. A large trephine was used (the aperture being two inches in diameter), the tumour was situated just below the surface, and the galvano-cautery was employed to stop hæmorrhage from the brain. Many of the symptoms were immediately relieved, but paralysis of the opposite (left) arm followed, and meningitis coming on, the patient died on the twenty-first day.

Mr. Hulke (*Lancet*, vol. ii., p. 3, 1886) trephined in three cases of cerebral abscess due to suppurative otitis. In two the collection of pus was opened, but unfortunately a fatal result followed in all.

Mr. Birt (*Lancet*, vol. ii., p. 1138, 1886), in a case of bullet-wound of the orbit, after excision of the globe, detected the missile lying in the brain, and succeeded in removing it with forceps. The patient made a rapid recovery.

A discussion was held on the treatment of hernia cerebri at the Clinical Society, **Dr. MacLaren** (*Lancet*, March 20, 1886) reporting a case in which he inserted a silver plate within the cranium through the wound left after a compound fracture of the skull. The interest of the case lay in the fact that the plate, which was removed after two months, caused no irritative phenomena.

A case of cerebral abscess secondary to compound-fracture of the skull, producing first spasm and then hemiplegia of the opposite side, was recorded by **Mr. Maher** (*Brit. Med. Journ.*, Jan. 16, 1886). About two ounces of pus were let out by operation, and the child completely recovered.

2. Meningeal hæmorrhage.

Although trephining still remains the one prominent method of treatment of hæmorrhage from the middle meningeal artery, any fresh materials for accurate diagnosis of the lesion are to be welcomed as helping us to institute such treatment before it is too late. For this reason the valuable treatises of **Dr. P. Wiesman**, of Zürich (*Deutsche Zeitschr. f. Chirurgie*, Bd. xxi. and xxii.), and **Mr. W. H. A. Jacobson** (*Guy's Hospital Reports*, vol. xliii.), can hardly be too strongly recommended. They contain a surprising amount of clinical reports, the latter collection (seventy cases) being made almost entirely from English experience; the former (300 cases) being drawn from all sources. It is satisfactory to find

that the two authors agree in all essential points, especially as to the chief symptoms due to the hæmorrhage.—1. The interval of consciousness, which, according to Jacobson, is well marked in more than half the cases. 2. Hemiplegia on the opposite side (frequently with convulsions). 3. A pulse of diminished rate and increased tension. 4. Respiration laboured, slow and stertorous. The exceptions to these rules, and the additional symptoms met with, are fully discussed in both the works referred to, which also include details as to cerebral localisation, &c. One important question is discussed by Mr. Jacobson, what further measures to adopt if the hæmorrhage persists after exposure of the wounded artery by trephining, and after the application of ice. The actual cautery has been used with success in one such case, and compression or ligature of the common carotid has been tried, but ligature of the external carotid appears to be the most reasonable procedure, granting at the same time that it can be but very rarely required.

The great mortality of middle meningeal hæmorrhage is only too notorious, and it is reassuring to find a record of no less than thirteen complete recoveries after trephining by English surgeons, some of them cases of apparently the most hopeless nature.

Prof. Krönlein, of Zürich (*Deutsche Zeitschr. f. Chirurgie*, Bd. xxii., Heft 3 and 4), in reporting two successes out of four cases of trephining for middle meningeal hæmorrhage, points out that sometimes the extravasation is not seated in the middle fossa, but in the posterior one, forming what he terms the “parieto-occipital hæmatoma,” and even in the anterior fossa (the “fronto-parietal hæmatoma”). Hence he advises that, in cases of compression from meningeal hæmorrhage, the trephine should first be applied at the usual site (one inch to an inch and a half behind the external angular process), but that if no collection of blood be found the operation should be repeated in the same horizontal line further back—i.e., at the crossing of a vertical line starting from the posterior border of the mastoid process.

3. Operations on the mouth and œsophagus.

Mr. Vincent Jackson (*Lancet*, Sept. 4, 1886) excised a tubercular ulcer on the end of the tongue, suturing the edges of the wound, which healed rapidly. The patient was suffering from pulmonary phthisis, but the little operation was quite justified by the relief it gave to pain and discomfort from the ulcer, which had existed three months.

4. Œsophagotomy for impacted foreign bodies.

It is probable that much more harm is sometimes done by violent attempts with probang and forceps to extract a tooth-plate, piece of

bone, or other foreign body from the œsophagus, than would ensue if this operation were resorted to as soon as reasonable attempts to remove the obstacle through the mouth have failed. The dangers of leaving it *in situ*, as well as of the violent use of instruments, are clearly shown in the elaborate record of cases collected by Mr. Rivington (*Med.-Chir. Transactions*, 1886). He was compelled, in his reported case, to tie the common carotid for profuse hæmorrhage, resulting from wound of the vessel by a fish-bone swallowed eleven days previously. The probang had been used. The vagus nerve had become displaced, and was, unfortunately, divided during the operation, although the fatal result was not apparently due to this, but to abscesses in the brain.

Dr. T. M. Markoe, of New York (*Annals of Surgery*, Sept., 1886), reports two cases of œsophagotomy, both for impacted foreign body, one successful and the other fatal from inanition. To avert the latter danger there can be no doubt, as urged by Markoe and other surgeons, that alimentation should be conducted through a flexible tube introduced by the nostrils or mouth. In his successful case the tube was passed through the wound for the first ten days, but this plan certainly adds to the risk of cellulitis, fistula, &c. According to Gross's statistics eighty-two cases have been operated on; in seventy-four the foreign body was found and removed, fifty-seven recovering. In this operation, as in herniotomy, the chief danger seems to lie in delay.

M. Trélat (*Revue de Chirurgie*, Feb., 1886) describes fully his methods of performing staphyloraphy, from an experience of sixty cases. It is almost needless to say that he has invented a new form of gag, but, although he considers that the operation in his hands has undergone important modifications, we cannot detect any, in his description, that deserve notice. He always employs fine silver wire sutures and the curved spring-needle.

M. Castex (*Revue de Chirurgie*, Jan., Feb., and April, 1886) discusses at great length the subject of malignant growths in the pharynx and their operative treatment. The cases recorded in this paper tend to support the conclusion that operative interference, whilst adding to the risks, can, as a rule, only prolong life a few months.

Mikulicz (*Prager med. Woch.*, No. 10, 1886) excised a carcinoma of the œsophagus, suturing the latter to the wound in the neck, and four months later obtaining obliteration of the fistula by a further operation, recurrence taking place two months after this. Operative procedures of this character are surgically curious, but in the interests of the patient and of surgical art they are to be condemned.

5. Surgery of the neck.

Mr. Barker (*Lancet*, Jan., 1886, p. 194) records four cases of removal of deep-seated tumours of the neck, the internal jugular vein requiring ligature and partial excision in one of them. All the wounds healed by first intention under antiseptics. The cases serve to show with what little risk and trouble large cervical growths may be removed.

M. Pluyette treats in the *Revue de Chirurgie*, April, 1886, of arterio-venous aneurism between the common carotid and the internal jugular vein. He adds one fresh case to the list of sixteen, no less than thirteen of which were due to wounds of the neck. Three were treated by ligature of the artery, with two deaths and one recovery (without cure of the aneurism); all the others "treated expectantly," ultimately underwent spontaneous cure.

Mr. Treves (*Lancet*, vol. i., p. 1060) strongly advocates fixation of the neck by means of a light felt-splint (strengthened by metal) which is fixed to the occiput and shoulders, in all cases of chronic abscesses, suppurating wounds, &c., of the neck. He claims for the treatment of inflammatory affections of the neck the same essential that is observed in the treatment of like troubles elsewhere, viz., the primary importance of keeping the part at rest.

6. The larynx and trachea.

Laryngotomy or tracheotomy in adults?—An interesting discussion occurred on this subject at the Société de Chirurgie (*Bulletins*, pp. 227 and 278), M. Richelot introducing it by the report of five cases, all successful, of laryngotomy in adults. In all but one the cricoid cartilage was divided, in order to give room for the tube. The difficulty of tracheotomy in cases of cervical tumours, cellulitis, &c., and the simplicity of "inter-crico-thyrotomy" were dwelt on, and the opinion that the latter was in most cases much the most preferable, was endorsed by nearly every speaker. M. Verneuil even asserted that tracheotomy was destined to almost disappear from practice. M. Gougenheim held, however, that in cases of tubercular disease of the larynx threatening suffocation tracheotomy is preferable. In the technique of the operation a crucial division of the ligament was advised, and the danger of detaching the mucous membrane, and even fracturing the cricoid by violent attempts to introduce a cannula, pointed out.

Dr. Newman (*Lancet*, July 24, 1886) successfully excised the larynx in a case of malignant disease of that organ, the patient being able subsequently to talk through a special apparatus, and showing no sign of any recurrence six months after the operation.

Dr. Waxham (*Journ. of Am. Med. Assoc.*, July 17, 1886) reports eighty-three cases of intubation of the larynx for "pseudo-membranous laryngitis." The mortality (about 70 per cent.) would appear to be the same as that after tracheotomy in cases of this affection. The upper end of the tube rests upon the ventricular bands, the lower reaches to near the bifurcation of the trachea.

7. The surgery of the thorax.

Cases of resection of the ribs for empyema have been reported by several surgeons during the past year, and **Cormack**, in a thesis published in Paris, narrates twenty instances of this operation, ten fatal and ten successful. He considers the most suitable time for it to be six to twelve months after the formation of a fistula. **Mr. R. J. Godlee** treats of Estlander's operation and of the whole subject of surgical interference with cases of empyema in two interesting lectures reported in the *Lancet*, Jan., 1886.

See also **Fischer** (*Centralbl. f. Chirurgie*, Nov. 28, 1885), and **Maclaren** (*British Med. Journ.*, April 3, 1886).

Sir W. MacCormac (*Lancet*, Jan. 2, 1886) reports an interesting case of removal of one blade of a tooth-forceps from the right bronchus by means of tracheotomy.

Dr. Theodore Williams and **Mr. R. J. Godlee** raised a discussion at the Medico-Chirurgical Society (*Transactions*, vol. lxi., p. 317), on the treatment of bronchiectatic cavities by aspiration and drainage. This plan was thoroughly justified by the success attained in the two reported cases. In the first there were two cavities at the base of the left lung, the suppuration in which was steadily exhausting the patient. Having verified the diagnosis with the aspirator, Mr. Godlee made an incision into the larger of the cavities, and inserted a drainage-tube. Under antiseptic treatment the wound closed in six months, and the patient completely recovered. In the second case, part of the eighth rib was excised and a basic cavity drained, the operation was followed by considerable hæmorrhage from the lung, but the patient was markedly relieved. In neither case were tubercle-bacilli found in the sputum, and this feature, coupled with the presence of shreds of lung-tissue, was regarded as an indication for the treatment by drainage. It was admitted that not infrequently the indications of a bronchiectasis are by no means very clear, and that the aspirating needle may, from various reasons, fail in clearing up the diagnosis. The limitation of the cavities to one lung (especially the lower lobes), the presence of overlying pleuritic adhesions, and the failure of all other treatment, were agreed to be conditions favouring paracentesis or drainage. During the operation the patient should be anæsthetised very gradually and not profoundly ;

if hæmorrhage occurs, it can be checked by plugging the wound.

Dr. Maclaren, in reporting a successful case of resection of parts of six ribs in a case of empyema, points out that this operation alone does not allow a rigid chest-wall to fall in materially, but that division of the ribs or their cartilages in front of the resected area will considerably increase the possibility of its doing so.

The treatment of hydatid cysts in the lung.—Dr. J. Israel (*Deutsche med. Woch.*, May 13, 1886) successfully drained a large cyst in the right lung of a woman, aged twenty-five, having first resected part of the eighth and ninth ribs. An attack of bronchopneumonia, for which venesection was employed, complicated the recovery. It is interesting to notice that a previous aspiration of the cyst, although it had made the diagnosis certain, had brought on dangerous dyspnœa; and Dr. Israel holds that puncture is attended with greater risk than free drainage, owing to the former producing rupture of the cyst into the bronchi.

S. Abdominal section, &c.

M. Jeannel (*Bulletins de la Soc. de Chir.*, p. 5, 1886) removed a very large encephaloid tumour of the colon from a woman, aged thirty-three, the diagnosis having been made of ovarian cyst. The intestine was unavoidably opened, and an artificial anus made, but the patient sank thirteen days later. The tumour had somewhat dilated the bowel, and hence the complete absence of any symptoms of obstruction, and the erroneous diagnosis. The same operator attempted, without success, to remove a carcinomatous tumour of the mesentery, the chief interest of the case consisting in the presence of chylous ascites. Although it has been suggested that this feature may serve to diagnose tumours in the mesenteric glands, it must be remembered that it is occasionally found in hydatid disease of the peritoneum, and perhaps under other conditions.

M. Terrillon (*ibid.*, p. 23) removed a myxo-lipoma from the mesentery of a man, aged thirty-five, the tumour weighing 57 lbs., the patient dying of exhaustion and peritonitis, thirty-two days later. Reference is made to fifteen other reported cases, nine operated on with only two recoveries. To this list should be added one operated on by Mr. Bryant last year (see *Patholog. Transactions*), which was perhaps the largest yet recorded. In this last case the great difficulty in diagnosis and the usual fatal result of interference were once more confirmed. The two successful cases were operated on by MM. Péan and Madelung, one of them involving resection of part of the large intestine. In the face of these results it may well be questioned if any operation is

justifiable unless the bulk of the tumour threatens speedy death to the patient.

Mr. Hutchison (*Proceed. New York Surg. Soc.*, April 26, 1886) performed abdominal section for a supposed ovarian tumour which proved to be a greatly dilated gall-bladder full of pus, and with the cystic duct blocked by a calculus. Removal of the latter and suture of the sac to the wound, with free drainage, resulted in recovery, and the author advocates this plan in preference to sewing up the gall-bladder, and returning it into the abdominal cavity.

Antiseptic drainage of hepatic abscesses.—Mr. Johnson Smith (*Lancet*, Jan. 2, 1886) incised and drained three consecutive abscesses in the liver of a sailor who had previously suffered from dysentery. Intervals of about a month separated the three operations, the patient ultimately recovering.

Resection of intestine.—Dr. P. Reichel (*Deutsche Zeitschrift f. Chir.*), in giving a laborious résumé of published cases, concludes that primary resection is much more dangerous than resection after the formation of an artificial anus. Of eighty-four primary operations (for gangrenous herniæ, tumours, stricture, and wounds) forty-four were immediately fatal, and three were followed by faecal fistula. Of thirty-seven cases of resection for artificial anus twenty-one recovered, two others surviving with fistulæ.

Dr. R. F. Weir (*The Medical News*, Feb. 13, 1886) excised a carcinoma of the large intestine with two enlarged mesenteric glands, establishing an artificial anus at the wound in the linea alba. The patient lived several months.

Dr. Kwienicinski (*Przegląd Lekarski*, Nov. 5, 1885) resected a piece of the small intestine in a case of incised wound of the abdomen. The protruding gut was wounded in four places, two were sutured, but the other two were so close together that it was necessary to perform resection. The bowel was returned into the abdomen, and the patient made a good recovery.

Laparotomy for suppurative peritonitis.—The example set in the way of operative interference by Mikulicz, Treves, Burchard, H. Marsh, and others (see "Year-Book" for 1885), has been followed in many quarters. Dr. Hall (*New York Med. Journ.*, June 13, 1886) washed out and drained an intra-peritoneal abscess which had formed about the cæcum in a case of inguinal hernia. The patient, who was suffering from phthisis, was in a state of collapse at the time of operation, but made a good recovery. The appendix vermiformis, which had ulcerated through, was ligatured and excised.

Other successful cases of laparotomy for peritonitis have been

recorded by Studensky (*Centralbl. f. Chirurgie*, 1886, No. 10), Naumann (*ibid.*, 1886, No. 2), and Mikulicz (*Sammlung klin. Vorträge*, No. 262), the latter author giving a valuable review of hitherto recorded cases of laparotomy for perforation of the intestinal canal. Prof. Dennis (*Med. News*, Feb. 27, and March 6, 1886) also discusses the same subject at length, one of his cases, fatal volvulus rapidly following a penetrating abdominal wound, being of considerable interest.

Mr. Meredith (*Clinical Soc. Trans.*, 1886) performed laparotomy eight days after double ovariectomy, symptoms of acute intestinal obstruction with albuminuria coming on at the end of the first week. Two coils of small intestine were found to be obstructed by omental bands. After liberation of the obstructed bowel the patient made a slow but complete recovery. The value of the symptom of albuminuria in strangulation of the intestines has been dwelt on by Englisch in this year's *Centralblatt für Chirurgie*.

Mr. A. E. Barker (*Clin. Soc. Trans.*, 1886) performed abdominal section in a case of acute peritonitis (the patient, a man aged twenty-three), released what appeared to be a volvulus of the jejunum, and sponged out the abdomen with carbolic solution. In spite of subsequent protrusion of intestine through the nearly healed wound, the patient made a good recovery.

The treatment of acute intestinal obstruction by large enemata.—The great value of this measure in intussusception has been illustrated by many cases during the year, and some interesting papers have appeared advocating its use in other cases of intestinal obstruction. Dr. Illoway (*International Journal of Med. Sciences*, Jan., 1886) reports two cases of acute obstruction in adults successfully treated with very free enemata administered by means of a force-pump. Illoway holds that water injected in this manner will pass beyond the ileo-cæcal valve, and denies the special virtues of O'Beirne's long tube. He reports another case (probably of intussusception) successfully treated by injections, and a fourth of internal strangulation through the omentum, in which, after the failure of this plan, an operation had been refused.

Probably only a small proportion of the cases of intussusception cured by inflation or injections are recorded in print; but a considerable number have come to light during the last twelve months. Dr. Cheadle reports three in the *Lancet*, Oct. 23, 1886, and another is to be found in the same journal of Jan. 9, 1886.

Mr. Hutchinson (*Med. Press and Circular*) has recorded several cases of acute intestinal obstruction, in which the use of copious

enemata under anæsthesia, combined with inversion of the patient, has been attended with complete relief of the symptoms; he deprecates the resort to laparotomy until this measure has had a good trial.

Mr. Knowsley Thornton (*Med.-Chir. Trans.*, vol. lxi., p. 407) has performed the first successful splenectomy in England, the operation being for a tumour which was suspected to be a cystic kidney. The incision made was the usual one for ovariectomy. Alarming collapse occurred during the ligation of the pedicle, but beyond some rise of temperature and an attack of phlebitis in the left leg, no complication occurred during recovery. The patient returned to work as a domestic servant. The spleen proved to be cystic. The same surgeon operated in a second case for simple hypertrophy of the spleen, the patient being a woman aged twenty-five. Unfortunately an artery in the pedicle escaped the ligatures, and fatal retro-peritoneal hæmorrhage occurred on the day of operation. Mr. Thornton's paper concludes with a reference to the eleven successful and twenty-four fatal cases of complete removal of the spleen that have been hitherto reported.

9. Operations on the gall-bladder.

Three cases of cholecystotomy (two fatal) were reported to the American Surg. Soc. (*Proceedings*, May 8, 1886), and P. J. Wising has published a review of fifty-one cases (*See abstract in Centralbl. f. Chirurgie*, 1886, No. 20). **M. Denucé** also reviews the subject of cholecystotomy (*Thesis*, Paris, 1886). **M. J. Thiriar** (*Revue de Chirurgie*, March 10, 1886) advocates ligation of the cystic duct and excision of the gall-bladder for those cases of biliary colic which resist all medical treatment. He reports two successful operations, in one of which the gall-bladder was found to be full of calculi, in the other to contain only bile. **M. Thiriar**, before his abdominal operations, orders an enema containing chloral and laudanum, believing that it tends to prevent shock, and employs the most rigorous antiseptics. He maintains that cholecystectomy is a radical cure for biliary lithiasis, that the dangers of it are not great, and that it is to be preferred to cholecystotomy. To prevent all risk of bile finding its way beyond the ligation he sutures closely the wounded duct. Some support to **M. Thiriar's** contention is to be found in cases like that of **Dr. C. T. Parkes** (*Transactions of the American Surgical Association*, vol. xxxv.), in which he was obliged to perform cholecystotomy twice on the same patient, with ultimate success. A successful case of cholecystotomy, in which two gall-stones came away from the wound some months after the operation, is reported by **Dr. Napier** (*British Med. Journ.*, 1886, p. 872). **Mr. Lawson Tait** (*Lancet*, Feb. 13,

1886) adds five cases of cholecystotomy to his previous list of sixteen, making twenty-one cases, all followed by recovery. Mr. Mayo Robson (*Med.-Chir. Soc. Trans.*, 1886, p. 17) adds two more successful cases.

10. Hydatid cysts of the liver, &c.

Mr. Terrier reported to the French Society of Surgery in May, 1885, a case of hydatid cyst attached to the lower surface of the liver, which he had treated by excising most of the sac and securing the rest to the edges of the wound. The sinus closed in fourteen weeks, and the patient has remained well. In the *Bulletins de la Soc. de Chir.*, 1886, p. 113, he reports a second case, and the question whether such cysts are best treated by this method or not was fully discussed by the Society. M. Terrier's second case was a woman, aged forty-two, who had previously suffered from leucocythemia and splenic enlargement, and whose abdomen had been steadily increasing in size for eighteen months. Puncture having confirmed the diagnosis of hydatid cyst, a long median incision exposed an immense sac firmly adherent alike to the abdominal wall and to the viscera—from liver to bladder. Careful and prolonged dissection enabled M. Terrier to detach the greater part of the cyst from the omentum, bladder, cæcum, &c., and, having excised it, he provided for the drainage of the remainder. Iodoform dressings and frequent irrigation with corrosive sublimate solutions (1 in 1000) formed the chief after-treatment, the patient leaving her bed at the end of six weeks, the wound being entirely healed at the end of the eighth week.

As has more than once occurred in similar cases the discharge from the wound was for several days mixed with bile, and to this fact was no doubt due the fæculent smell noticed at times.

In all, seventy-three hydatid cysts were evacuated at the operation or subsequently.

M. Reclus reported another successful case of resection of the sac (which measured 13" in diameter), and M. Poulet (*ibid.*, p. 129) a fourth, which was cured in seven weeks. That part of the cyst wall left behind at the time of operation exfoliated in each case after a few weeks. M. Bouilly (*ibid.*, p. 147) reports yet another successful case. Volkmann's method of incising the abdominal wall over the cyst, using antiseptic dressings, and at the end of eight days opening the sac with bistoury or actual cautery, has been carried out by many surgeons, and the mortality of this operation and of that performed by M. Terrier is quite low—6 per cent. (three deaths out of fifty-one cases—Poulet).

Although for small cysts simple puncture with a large trocar may be all that is required, and, indeed, all that is possible in cases

where the upper part of the liver is affected, yet when evidence of suppuration is present, and in cases in which the cyst is comparatively free, there can be little question that abdominal section is fully justified.

M. Poulet, in an able paper published in the *Revue de Chirurgie*, June, 1886, discusses the advances made in the treatment of hydatid cysts of the liver.

11. The treatment of hernia.

The radical cure.—During the past few years the ingenuity of various operators has led them to devise more or less valuable methods of attempting the radical cure of hernia, and previous "Year-Books" contain a description of most of these. Leaving aside some fresh suggestions, such as the use of electrolysis and modifications of the "injection treatment" as wanting the test of experience, we have to notice some valuable contributions to the literature of the subject. Prof. J. Wood, in a course of lectures delivered at the Royal College of Surgeons, and since published under the title of "Hernia and its Radical Cure," furnishes a review of his great experience of the operation since 1860. We strongly recommend this work to those who wish to obtain clear ideas as to what is sometimes justly known as "Wood's operation." Up to the date of publication Mr. Wood had performed the operation for radical cure 414 times on 391 patients, 370 of whom were cases of inguinal hernia. It will be remembered that in his operation the whole of the inguinal canal is to a great extent closed, the wire or ligature penetrating the conjoined tendon and its constituent muscles as well as the pillars of the ring.

Out of 273 operations, done without removal of the sac, and with the wire introduced through a very short incision, four ended fatally—from tetanus, delirium tremens, and broncho-pneumonia. About 27 per cent. were known to be unsuccessful in obtaining a permanent cure, and this proportion would probably be increased if all the cases could have been followed up beyond the test-time, *i.e.*, two years. Nevertheless, the fact that a large number of the patients, many of them engaged in laborious occupations, were able permanently to dispense with their trusses, is a very satisfactory one.

Lately Mr. Wood has, with strict antiseptic precautions, excised the hernial sac and employed kangaroo or ox tendon instead of wire. This modification, which has several obvious advantages, has resulted in a larger mortality (about 11 per cent.).

The work deals also with the anatomy of hernia and the application of trusses, and is admirably illustrated throughout.

J. Anderegg (*Deutsche Zeitschrift f. Chir.*, Aug. 25, 1886) reports 114 operations for radical cure (excision of sac and catgut suture of the pillars) performed in Basle, Vienna, and Lausanne. In two out of every five cases a return of the hernia occurred. The mortality is quite unsuited for estimating the danger of the operation alone, as many of the cases were those of severe strangulation. Details of every case are given, and the paper should be referred to by those interested in the subject. One deduction from it is that closure of the external ring alone is, as one would expect, a less trustworthy method of radical cure than "Wood's operation."

Dr. Macewen, of Glasgow (*Annals of Surgery*, Aug., 1886), advocates:—1. The use of ligatures which may be left in the tissues, stout catgut by preference; 2. Forming out of the sac a pad, which is left inside the internal hernial orifice; and 3. "The restoration of the valved form of the inguinal canal." His statistics hitherto have been so good as to demand special attention to his methods. Of thirty-three cases of operation on inguinal hernia in patients of all ages, from five to fifty-seven, not one had any return of the hernia, and only one wore a support as a precaution. Immediate union occurred in nearly every case. In fourteen, complicated with strangulation, the results were as good, though three subsequently wore a support. Of nine cases of strangulated femoral hernia, in which the falciform process was sutured to Gimbernat's ligament, slight suppuration occurred in three, in all the cure appeared to be permanent when last seen (in several cases about three years subsequently). Fifty-six operations without a death and without a single failure, considering that twenty-three of them were complicated by strangulation, is a record which has probably not been surpassed. Mr. Macewen uses decalcified chicken-bone drains, and employs a peculiar method of introducing the sutures, but the most original part of his operation consists in completely detaching the hernial sac (except in the case of congenital hernia, when the upper part of it only is detached) right up to the abdominal aspect of the internal ring. A catgut ligature is then secured to the bottom of the sac by a knot, the other end is made to transfix the sac repeatedly, and finally to pierce the abdominal muscles from within outwards one inch above the internal ring. By traction on this ligature it is evident that the sac can be drawn wholly within the abdomen, and is secured there in order to form an obstacle to the future descent of a hernia. Whether this extensive displacement is advisable in cases of thick and inflamed sac, may perhaps be doubtful, but Dr. Macewen succeeded in effecting it in all his fifty-six cases.

Dr. Nikolaus (*Centralbl. f. Chir.*, Feb. 6, 1886) advocates the patient's adoption of the "genu-pectoral" position whilst applying taxis to hernia, and supports this very reasonable suggestion by a few cases in which it was successfully adopted. In some the prolonged maintenance of this position was followed by return of the hernia, previous taxis having failed.

Mr. Keetley (*British Med. Journ.*, 1886, vol. i., p. 343), and **Mr. Rushton Parker** (*Liv. Med.-Chir. Journ.*, Jan., 1886) advocate making the skin incision in both femoral and inguinal herniotomy farther outwards than is usually done. The advantages are that the wound is distanced from the genitals, and the cicatrix is not directly under the point of truss-pressure. The former author prefers in some cases an incision more horizontal than vertical.

Two cases of successful operation for hernia reduced *en masse* are reported by **Mr. Ward** (*Lancet*, July 31, 1886). In one abdominal section was performed; both had originally been inguinal, and in both the patient had produced the displacement.

Firm adhesions of omentum to empty hernial sacs are so often found in the bodies of those who have died from other causes, that it is difficult to believe that they are very dangerous in themselves. However, as suggested by **Mr. Southam** (*Lancet*, Aug. 14, 1886), they may occasionally produce kinking of the colon, or act as strangulating bands. He dissected off the adhesion in such a case, ligaturing the omental pedicle, and the symptoms (those of severe strangulation lasting three days) were completely relieved by the operation.

12. Diseases of the rectum and adjoining parts.

Forcible dilatation of the sphincter ani.—The value of this simple procedure in the treatment of many rectal ailments is perhaps not sufficiently known. For cases of simple spasm, of spasm complicated with fissure, of slight internal piles, and of deep fistulæ, forcible dilatation, effected with the fingers, is of the greatest benefit. **Mr. Teale**, who writes on this subject in the *Med. Times and Gazette*, Nov., 1885, like **M. Verneuil**, and some other French surgeons, substitutes dilatation for the use of the knife in ulcer or fissure of the rectum, and even if the base of the ulcer be incised, the sphincter should be stretched at the same time. Digital dilatation in preference to the knife is also advocated by **Mr. Wheelhouse** (*British Medical Journal*, Feb. 6, 1886).

Dr. Kelsey, of New York, (see *Medical Record*, Feb. 15, 1886) writes in support of the treatment of internal hæmorrhoids by the injection of a few drops into each of a strong solution of carbolic acid. One part of the acid to 2 parts of glycerine and water

will cause shrinking of most internal piles; but one drawback to the treatment is that it may require to be several times repeated.

Dr. Stephen Smith (*New York Medical Record*, June 12, 1886) has succeeded in obtaining immediate union of the wound made in incising fistula in ano in several cases. This plan, which has been advocated by Mr. Reeves and other surgeons, depends largely for its success on the thorough removal, with scissors and knife, of the diseased lining membrane of the fistula or abscess cavity.

During the application of the sutures, a sponge in the rectum prevents access of fecal matter, and the parts are brought into view by the assistant's finger used as a hook.

Mr. Whitehead (*Lancet*, July, 1886) discusses the indications for removal of the coccyx. In two recent cases, in which he performed this operation, the result was very satisfactory; in one the bone was necrosed, owing to ischio-rectal abscess, in the other it was bent at a sharp angle; both patients had suffered severely from pain in the coccygeal region for many years.

Stricture of the rectum.—**Mr. Harrison Cripps** records an interesting case of fibrous stricture (complete obstruction for two months) in which he made a free posterior incision (linear proctotomy). The man recovered with complete control over his evacuations.

Fistulæ and sinuses.—A powerful stimulating and antiseptic injection is to be found in oil of turpentine, which may be used pure, or diluted with olive oil. **Cecchini** (*Annali Univ. di Med. e Chir.*, Aug., 1885) reports a series of cases successfully treated by this method, including several anal fistulæ, which healed without operation. In cases of foul discharge, it is well to cleanse the channels with some milder antiseptic before using the turpentine injections, which are to be repeated every three or more days. This author also strongly recommends turpentine as a dressing for septic wounds, &c.

13. Diseases of joints, &c.

Splint for use after excision of the knee.—**M. Lucas-Champonnière** has devised a useful splint, to be applied with plaster of Paris, after resection of the knee. The apparatus, which is figured in the *Bulletins de la Soc. de Chirurgie*, 1886, p. 45, consists of two metal straight pieces for thigh and leg, connected by lateral perpendicular arches of the same material. It differs from other somewhat similar splints, such as Watson's, in that it is placed behind the limb, the region of the operation being left exposed by the gap in the splint, and suspension being conveniently made by means of the vertical arches.

M. L. Reverdin (*Revue de Chirurgie*, April 10, 1886) discusses

the operation of excision of the astragalus, but his paper contains little that is new. He advocates an external horizontal incision starting from the middle of the tendo Achillis, over which a short vertical one is added.

Mr. T. Bryant (*Med.-Chir. Transactions*, vol. lxi., p. 163) reports a large number of cases of amputation at the knee-joint by disarticulation, and advocates Stephen Smith's method by lateral flaps, both at this point and lower down in the leg. His statistics are very favourable, and the stumps "were perfect," in four cases the semi-lunar cartilages were preserved, and Mr. Bryant writes in favour of this latter modification.

Partial resection of iliac bone.—**M. Delorme** (*Bulletins de la Soc. de Chirurgie*, 1886, p. 285) successfully removed a considerable piece of the ilium in a case of tubercular osteitis in a young man. The part removed was the external table just above the sacro-sciatic notch, the very large wound healing in two months.

Arthrotomy for foreign bodies in joints.—A discussion, which took place on this subject at the Société de Chirurgie (*Bulletins*, 1886, p. 183), chiefly turned on the question of drainage. Strict antisepsis, the use of deep as well as superficial sutures, and immobility of the joint (this, however, was rejected by M. Lucas-Champonnière), were advised; the use of drainage tubes was on the whole recommended, although further experience needs to be collected before the latter point can be considered settled. The latest statistic published abroad (*Gazette Méd. de Strasbourg*, Feb., 1886) gives four deaths from arthrotomy for loose bodies in joints out of one hundred cases.

The treatment of enlarged bursa patellæ.—**M. Houzel** (*Revue de Chir.*, Sept. 10, 1886), in concluding a review of the various methods adopted in France, holds that for slight and recent enlargement blistering, compression, or puncture will suffice; but that for old cases with thick sac-walls, the best treatment is antiseptic excision. Although generally laborious, on account of firm adhesions to patella or skin, the removal of every part of the sac must be carried out, if primary union is to follow. To facilitate the dissection without cutting the sac, a manœuvre introduced by M. Pozzi is recommended, and three cases reported in which it was employed. The fluid is withdrawn by aspiration, and its place filled by hot spermaceti; this solidifies on the application of cold, and the dissection can then be continued.

Weight-extension in hip-disease.—In an experiment conducted by means of frozen sections, **M. Lannelongue** (*Bull. de la Soc. de Chir.*, 1886, p. 35) clearly proved that such weight-extension as is employed in the usual treatment of hip-joint disease, is

capable of effecting a separation between the cotyloid cavity and the head of the femur, amounting to a few millimètres (in his case from 2 mm. at the centre to 5 mm. at the upper part). It is needless to say that the softened capsule is pressed in so as to fill up the interval.

14. Fractures of the patella.

The risks and true value of "antiseptic" wiring of the fragments must still remain uncertain. Four cases, successful in every way, were reported in the *British Med. Journ.* of Nov. 28, 1885, by Mr. Hardie. Two deaths from suppuration and pyæmia are given in the *Gaz. des Hôpitaux*, Jan. 14, 1886, and *Lancet*, Dec. 12, 1885. Dr. Sands (*The Med. News*, Dec. 26, 1885) sutured together the ends of a ruptured ligamentum patellæ, eight months after the accident. The great difficulty met with in obtaining apposition, and the partial success attained, would hardly encourage the repetition of this procedure; but, at the same time, the usefulness of the limb seems to have been considerably improved by it. Dr. Sands's paper deals with thirteen cases of this uncommon lesion.

Mr. G. R. Turner (*Lancet*, 1886, vol. i., p. 809) discusses the treatment of compound fracture of the patella; out of twenty cases reported (including one in his own practice) all recovered, twelve with good movement, five with slight movement, and three with firm ankylosis. Five were operated on by antiseptic suture—to these add one reported by Mr. S. Jones (*Lancet*, May 8, 1886),—two only getting free movement; nine cases were simply treated antiseptically, with seven successes. To the latter number must be added one case reported by Mr. Bramwell (*Lancet*, 1886, vol. ii., p. 1102), and another by Mr. Robson (*Lancet*, May 8, 1886). A valuable summary of ninety cases of antiseptic wiring for simple fracture of the patella was published by C. Brunner (*Zeitschr. f. Chir.*, Bd. xxiii., Heft 1 and 2). Five died of pyæmia, three cases required amputation, in nineteen the joint suppurated, and fourteen others resulted in ankylosis, without counting many others of stiffness and greatly impaired movement. It is obvious from this candid record that the operation, whilst perhaps giving a certain number of perfect results, in a large number made the condition much worse than before, and caused the death of the patient or loss of the limb in at least 10 per cent. Seven other cases, treated by passing a wire round the fragments in the vertical axis of the limb, resulted in one death and two instances of suppuration.

Mr. F. Treves (*British Med. Journ.*, July 24, 1886) has revived the use of Malgaigne's hooks, employing strict antiseptics, with

very good results in every case hitherto so treated. The hooks are fixed directly into the fragments. The punctures for the points of the hooks are made with a tenotome. Through the upper punctures, any fluid the joint may contain is evacuated. The small wounds are covered with iodoform. The hooks are retained for from four to six weeks. The joint is fixed by means of a back splint.

15. Fractures and dislocations.

Prof. Heinicke (*Centralbl. f. Chir.*, Jan. 9, 1886) records an undoubted case of displacement of one scapula over the edge of the latissimus dorsi. He succeeded in reducing the deformity by steady outward and backward traction of the arm extended to a right angle with the trunk. The patient, a girl aged fifteen, stated that the displacement had occurred five times previously.

Prof. Nicolaysen (*ibid.*), in a case of "luxatio erecta" of the humerus cut down upon the joint, removed the detached great tuberosity which was wedged into the glenoid fossa, and enlarged the rent in the capsule. The wound healed in eight days, and the result was very satisfactory.

M. Lucas-Champonnière (*Bulletins de la Soc. de Chir.*, 1886, p. 561) deprecates immobilisation of the joints close to a fracture (e.g., the wrist-joint in Colles's fracture, and those of the foot in fracture of the external malleolus). Cases of Colles's fracture he treats with two or three days' bandaging, and then commences massage, only using splints in those with great deformity. Those of fractured fibula have massage performed regularly after the first twenty-four hours. A number of cases are reported, as well as others of fractured humerus, olecranon, &c.; whilst believing that the author makes a too high estimate of the pain-saving merits of his treatment, we admit that when carefully carried out it may be of much value in preventing stiffness after certain fractures.

A discussion on the treatment of Colles's fracture took place at the New York Surgical Society, in March of this year (see *Annals of Surgery*, Aug., 1886), in which several speakers advocated an exactly opposite treatment to that just alluded to. It was generally held that simple straight splints yielded as good results as the more complicated ones; and that there was little danger of material stiffness resulting so long as the fingers were left free, and the splints removed at the end of three or four weeks. Dr. Pilcher, however, advocated the use of a simple band of strapping, applied round the fractured part after reduction, and a bandage for hand and fore-arm; for the last twelve years he has treated every case without splints.

Several papers have appeared during the last year on the subject of sprains of the elbow in children under the age of five or six, by J. Hutchinson, jun. (*Annals of Surgery*, Aug., 1885), Lindemann (*Brit. Med. Journ.*, p. 1058, 1885), Hoffmann (*Centralbl. f. Chir.*, 1886), and others. In these cases the radius slips out of the grasp of the orbicular ligament, an easy and certain method of reduction is to flex and pronate the child's fore-arm, the descent of the ligament is made known by a characteristic sound.

Sterno-clavicular dislocations.—The difficulty of retaining the once dislocated clavicle in position is well known, and may be met in some cases by the plan, advocated by M. Le Fort (*Gaz. des Hôpitaux*, 1885, No. 47), of firmly securing a large guttapercha mould in front of both clavicles, the lower part of the neck and the upper half of the thorax. A starched bandage is used, and the apparatus is only removed at the end of five weeks.

Ununited fractures, &c.—Mr. Barker (*Lancet*, Jan. 30, 1886) resected the false joint remaining after a fracture of the clavicle (sustained in utero?) in a boy, aged twelve, who presented symptoms resembling those of "writers' cramp" in the hand of that side. The fragments were wired together, the wound healed at once under antiseptics, perfect mobility of arm resulted, and the symptoms entirely disappeared.

New method of treating fractures of the femur.—During many years M. Hennequin, of Paris, has been studying the best method of applying extension in fractures of the femur. In the *Revue de Chir.*, July, 1886, he fully describes the apparatus he has found to be the best, and which, in many cases of fractures of the shaft in adults, has yielded perfect results. The long splint is entirely done away with by this plan, and the patient can sit up in bed from the first. Extension is made by a weight and pulley—the traction being to a large extent from the upper part of the bent leg. Counter-extension is effected by raising the foot of the bed, and the thigh is secured in a specially constructed wire trough or splint. It is very desirable that this method, which is spoken of most highly by surgeons from Paris, should be given a careful trial in England.

16. Operations on arteries.

Prof. Annandale (*Lancet*, March 13th, 1886) suggests that compression of the innominate artery through an incision made just above the sternum may be of use in the treatment of certain cases of aneurism, and in wounds of its large branches. The method has not yet been tried with success. Mr. Bennett May has added one more case of ligature of the innominate, the patient dying of secondary hæmorrhage. An interesting case of pulsating

exophthalmia, due to aneurism of the ophthalmic artery, and accompanied by a large aneurism of the internal carotid, is reported by Dr. Dempsey (*Brit. Med. Journ.*, Sept. 18, 1886). The patient was a woman, aged 22, and there was no history of traumatism. After the usual medical treatment with intermittent compression of the carotid artery had been tried for a month without marked benefit, and since serious cerebral symptoms followed the compression, the common carotid was ligatured with silk. Iodoform and other antiseptics were applied, but the wound suppurated, and severe secondary hæmorrhage occurred at the end of three weeks. "Five vessels, including the internal jugular vein," were now tied. The eye continued to protrude, and six weeks after the first operation, hæmorrhage occurred through the ruptured cornea. The patient speedily sank. In the orbital aneurism some ante-mortem clotting had occurred, but none in the intracranial one, which was of the fusiform variety. No communication was found with the cavernous sinus.

Mr. Littlewood (*Lancet*, 1886, vol. i., p. 590) performed Antyllus' operation in a case of gluteal aneurism of traumatic origin. The abdominal tourniquet was not applied until after the sac had been opened, and consequently the patient (a boy of fifteen years of age) lost "an enormous amount" of blood, but a complete recovery followed.

Mr. King (*Lancet*, Nov., 1885), in a case of punctured wound below the mastoid process, detected fracture of one transverse process with wound of the vertebral artery. The hæmorrhage was controlled by graduated pressure, and the patient recovered.

Dr. Saboia, of Brazil, successfully treated a subclavian aneurism (of the third part) by a single application of galvano-puncture. The positive pole alone was inserted and retained in the aneurism thirty-five minutes.

Dr. Cayley (*Med.-Chir. Trans.*, vol. lxi., p. 267) reports a case of thoracic aneurism treated by the introduction of steel wire (thirty-five feet) into the sac. At the post-mortem, ten days later, a considerable amount of clotting was found to have taken place. Of four cases thus treated, one (Prof. Loreta's) has survived as long as thirteen weeks. For another case in which this treatment was attempted, see *Lancet*, July 12, 1886.

The subject of ligature of large arteries has been exciting renewed interest during the past year.

Dr. J. C. Warren, of Harvard University, has published a laborious and careful work, dealing alike from experiments on animals and clinical observations, with the different methods of ligature. As regards the pathology of the healing of arteries, Dr. Warren's

book must be regarded as probably the most complete yet written.

Messrs. Ballance and Edmunds (*Med.-Chir. Trans.*, vol. lxi., p. 443), from a series of vivisection experiments performed on the carotid arteries of sheep and horses, deduce the following conclusions:—1. That it is unnecessary to rupture any of the coats of a large vessel during ligature in its continuity, and that the opposing layers of undamaged intima will readily adhere by plastic exudation. 2. That kangaroo tendon and carefully-prepared chromic catgut (especially the former) are the best materials for antiseptic ligature. 3. That a round ligature is preferable to a flat one; and 4. That, should suppuration occur, the risk of secondary hæmorrhage "is greatly augmented by the division of the two internal layers of the arterial wall."

To render the tendon ligature free from the risk of slipping, it is well to immerse it in corrosive sublimate solution for an hour, after removing it from the carbolic oil. Two cases, in which the ligature slipped shortly after being applied round large vessels, were reported to the Clinical Society, October 22, 1886. In the first (Mr. T. Smith's) the common iliac artery was tied with kangaroo tendon for aneurism. The pulsation returning next day, the ligature was found to have become loose, and fresh ones of carbolised silk were applied. Death followed from gangrene of the lower limb. In the other (Mr. Butlin's) the subclavian artery had been tied in two places, and the artery divided between the ligatures, the proximal one slipped off, and the patient died of hæmorrhage. It was suggested in the discussion that a clove-hitch might be preferable to the ordinary reef-knot. Mr. Baker and Mr. Bruce Clarke (*Lancet*, March 13, 1886) report a successful case of ligature of both femorals for double popliteal aneurism.

A case of simultaneous ligature of carotid and subclavian arteries for aortic aneurism is reported by Mr. Kelly (*Lancet*, July 10, 1886). Some relief to symptoms followed the operation, but the aneurism did not seem to be much affected.

Mr. Jameson, of Kimberley (*Lancet*, March 6, 1886), reports an interesting case of aneurism of the right external iliac artery, for which he ligatured the common iliac. The operation was peculiar, in that the vessel was approached through the usual incision on the left side, and the success of the procedure would certainly warrant its adoption in other cases in which the aneurism is large and much overlaps the proximal part of the artery. Mr. Jameson also, in another case, ligatured the right carotid and subclavian arteries for aortic aneurism; partial coagulation in the sac

occurred, and the symptoms were relieved, but the patient died in three months. Both vessels were tied on the same day.

Mr. C. Mansell Moullin (*Clin. Soc. Trans.*, 1886) reported a case of traumatic inguinal aneurism, treated by ligature of the external iliac artery, and of the wounded femoral artery. Free suppuration followed, but the patient made a steady recovery; the limb, however, wasting considerably.

A successful case of ligature of the common femoral artery for traumatic aneurism is reported by **Mr. Spofforth** (*Brit. Med. Journ.*, Jan. 23, 1886).

17. Tumours.

M. E. Kirmisson, in the *Revue de Chirurgie*, May 10, 1886, deals with the dangers and difficulties attendant on operations for the removal of large tumours in Scarpa's triangle. The chief point of interest lies in the method of dealing with the femoral vessels, which may be necessarily denuded, or require to be ligatured. The risk of secondary hæmorrhage, should the wound suppurate, in the case of denudation of vessels, is considerable; and **M. Verneuil** has recorded, in this year's *Bulletins de la Soc. Anatomique*, a case fatal from this cause. But with strict antiseptics, as **M. Kirmisson** points out, this risk is minimised. If both the common femoral artery and vein have to be ligatured, the prospect of gangrene would appear to be about 50 per cent.; but if the ligatures are placed below the origin of the profunda, the prognosis is comparatively good. Some writers have held that, when the common femoral vein requires ligature, the risk of gangrene is decreased by simultaneous ligature of the artery, but the writer combats this view, and several successful cases of ligature of the vein alone are quoted. It is necessary to place three ligatures, two on the femoral vein, and one on the profunda. The frequency with which erysipelas attacks these wounds, and the occasional presence of a femoral hernia, which may be concealed by the tumour above it, are pointed out in the paper, which concludes with a good bibliography.

The treatment of malignant new growths with arsenic.—The hope that malignant tumours unfitted for operation would be affected in their growth by arsenic seems to have almost faded away. **F. Köbel** (*Mittheil. aus der Klinik zu Tübingen*) reports several cases energetically treated by injections and internal administration of arsenic without result. One of multiple lymphoma, however, was apparently much benefited, the glandular masses suppurating, and ultimately disappearing.

Removal of the arm and scapula for sarcoma.—**Mr. C. Heath** (*Brit. Med. Journal*, July 10, 1886) in the case of a boy, aged

sixteen, amputated at the shoulder-joint, and then excised the scapula and the outer third of the clavicle. The tumour—an ossifying sarcoma—recurred eight months later, and a second removal was effected. Another recurrence took place after two years' interval in the pectoralis major, and since the third operation the patient has remained well (it being now nearly three years since the first operation).

A remarkable case of removal of the scapula and clavicle a few days after a very severe compound-fracture, due to a machinery accident which had torn off the arm, is reported by M. Lucas-Champonnière in this year's *Revue de Chirurgie*. Both papers are accompanied by illustrations of the condition after this extensive mutilation.

18. Nerve-suture and plastic operations.

Professor Vanlair (*Revue de Chir.*, August, 1886), in experimenting on the reunion of nerves through the canal of a vulcanised caoutchouc drainage-tube, was surprised to find that the tube itself was capable of organisation, new vessels being developed in it during the course of some six or seven months. The tolerance of buried drainage tubes by healthy tissues is well known, but their organisation is a new and curious fact.

Dr. Ferrari (*El Siglo Medico*, Nov. 22, 1885), in reporting the results of many experiments on bone-grafting, urges the rigorous use of antiseptics, and moderate pressure to maintain contact between the medulla and the transplanted piece. This question becomes of great importance in connection with the operations for removal of cerebral tumours, &c., and some success has been obtained in a few cases by replacing parts of the bone removed.

Mr. Reginald Harrison (*Brit. Med. Journal*, March 6, 1886) sutured the ends of the median and ulnar nerves, divided just above the wrist eighteen months before the patient's admission. The ends were found to be clubbed and adherent to the scar. Six months later both motor and sensory functions in the hand had become completely restored.

Tendon-grafting.—The practicability of this proceeding has been demonstrated on various animals, and M. Peyrot (*Bulletins de la Soc. de Chir.*, 1886, p. 357) succeeded in transplanting 1" of dog's tendon into the gap left by complete division of a man's "flexor digitorum." Catgut sutures were employed, and not only did the transplanted piece live, but a fair amount of flexion of the finger was obtained.

A case of periosteum-grafting was reported by Dr. Trueheart in the *New York Med. Record*, Oct. 3, 1885, the method employed closely resembling that of skin-grafting, i.e., very small pieces of

periosteum being repeatedly inserted at short intervals. The case was one of a gunshot-wound in which $3\frac{1}{2}$ " of one clavicle had been carried away; this gap was ultimately filled by new bone, and curiously it sustained a fracture again some years later.

19. Anæsthetics.

In the *International Journ. of the Med. Sciences*, Jan. 25, 1886, is to be found an interesting review of the subject of general anæsthesia, based on papers by Buxton, Murray, and Chiene.

Dr. Ernest Jacob published in the *Brit. Med. Journ.*, March 13, 1886, a summary of the deaths from anæsthetics in 1885, ten from chloroform and three from ether.

The value of nitrite of amyl in dealing with toxic symptoms due to cocaine has been favourably commented on by several observers. The substitution of the use of cocaine for anæsthesia, in various operations, has also been the subject of many communications to surgical literature during the past twelve months; but nothing requires to be added to the full notice in the last "Year-Book."

20. Miscellaneous.

Mr. Hutchinson (*British Med. Journ.*, March 27, 1886), pointing out the not infrequent origin of acute periostitis in children at the back of the femur in its lower third, advocates making the incision between the ilio-tibial band and the biceps tendon. In this position no structure of importance will be encountered on cutting down to the bone.

Mr. Southam (*ibid.*) reports two cases of spina bifida treated with the injection of Morton's iodo-glycerine solution, one recovered with only a slight tendency to talipes calcaneus remaining, the other died from acute meningitis after the first injection. At the post-mortem the cauda equina were found in the sac, which had only a moderate opening into the spinal canal.

Treatment of chronic abscesses by the injection of ethereal solution of iodoform.—It will be remembered that M. Verneuil introduced this method at the Congress of Surgery in 1885, and his assistant, M. Verchère, reports the results with full details in the *Revue de Chirurgie*, June, 1886. The method consists in withdrawing the pus by aspiration, and immediately replacing it by a 5 per cent. solution of iodoform in ether. Not more than 40 or 50 grains of iodoform should be injected. The trocar should be introduced very obliquely through the skin, as in the treatment of spina bifida by injection, and collodion is then applied. The swelling, due to sudden vaporisation of the ether, is sometimes alarming, particularly when the abscess is a cervical one; but

interference by puncture is rarely required. As was demonstrated by one post-mortem examination, the use of ether ensures the deposit of iodoform over the whole abscess-wall. The drug is to a considerable extent absorbed, and in more than one of the twenty-two cases recorded symptoms of iodoform-poisoning (depression, nausea, vertigo, and fall of temperature) were observed. A few cases are said to have been cured by a single injection, in many the process was repeated every month or so, and sometimes the abscess opened spontaneously, and shreds of its lining membrane came away. The cases are reported with great care and evident accuracy, and the results in most of them were sufficiently satisfactory to encourage full trial of the method. Dr. Paul Bruns has written on the same subject in the June, 1886, number of his *Beiträge zur klin. Chirurgie*.

ORTHOPÆDIC SURGERY.

BY W. J. WALSHAM, F.R.C.S. Eng.,

*Assistant Surgeon to, and Surgeon in Charge of, the Orthopædic Department at
St. Bartholomew's Hospital.*

1. The treatment of flat-foot.

Mr. King Green (*Lancet*, Dec. 26, 1885) recommends the following method of treating flat-foot in the female. A triangular-shaped piece of stout jean, 10 in. by $3\frac{1}{2}$ in., is attached by its base within the shoe to the outer side about $\frac{1}{2}$ in. above the junction of the sole with the outside leather. The sole of the foot rests upon this piece of jean which, when tension is made upon it by the cord above, gives requisite support to the arch of the foot. An extra stout brown leather shoe-lace is firmly bound to the apex of the triangular piece of jean, and passed through a ring (the outstanding ring of a jack-rod), which projects from the garter, and still higher through another ring, where it is secured by a slip-knot. A piece of indiarubber cord, $\frac{1}{3}$ in. thick, to the lower end of which a small metal ring is fixed, is firmly bound above to the lower end of a Y-shaped piece of strong webbing attached to the front and back of the corset. On retiring to rest at night the whole apparatus can be removed by one pull of the slip-knot above the knee, when the leather cord comes off with the boot or shoe, while the indiarubber cord remains attached to the corset. This apparatus is similar in principle to that devised by the reporter and described in the "Year-Book" for 1884.

Dr. Barling showed a youth before the Midland Medical Society, February 3rd, 1886 (*British Med. Journ.*, 1886, vol. i., p. 398) on whom he had operated for flat-foot. The deformity had arisen after acute rheumatism three years previously, and was of the most severe kind, especially on the right side. The left foot was treated by forcible manipulation, the right by Ogston's operation, as the tubercle of the right scaphoid bone prevented restoration of the arch until it was mostly removed. The arch of each foot was

now excellent as far as appearances went, and the patient could walk some miles without distress, but although there appeared to be bony ankylosis on the right side, yet that was, from the patient's statement, the weaker foot. It was, however, the worse before treatment.

Mr. Mayo Collier (*Lancet*, Sept. 4, 1886), considering that the present treatment of flat-foot is founded on erroneous notions of its anatomy and cause, advises, in addition to good food, fresh air, and as much rest as possible, a radical change in the construction of the boot. The toe and heel, he says, should change places, or what amounts to the same thing, a good laced boot should be worn, with the sole quite an inch thick in front and fining off to a line or two at the heel. By these means, he thinks, the normal inclination of the os calcis could be maintained and the weight of the body properly disposed of.

Mr. T. S. Ellis (*Lancet*, Sept. 25, 1886) contends that Mr. Mayo Collier's views of the causation of flat-foot are mistaken, and the methods he proposes contrary to the principles that should guide us in the treatment of the affection. Mr. Ellis, as is well known, believes that the arch of the foot is mainly supported by the tibialis posticus and the bow-string-like action of the long flexors and peronei, and again calls attention to the marked success he has obtained by the tip-toe exercises first proposed and advocated by him. As much vigorous but well-directed exercise as can be properly borne, and not as much rest as possible, is in his opinion the right treatment. "The patient should, when sitting, or better, when lying, be directed to forcibly invert the foot, and flex the toes as often and as much as can be done. The surgeon or nurse should occasionally see how much resistance can be overcome in doing this. He should learn as soon as possible to spring up on tip-toe, sustaining the position awhile, and then gradually sinking on the heel, and should learn, if he must stand, to stand on the toes." To raise a weight by means of a cord running over pulleys is, for the purpose in view, of all exercises the best. The object is that the weight shall partly support the body as the latter rises to extreme tip-toe, then the toes must grip the ground with the downward pull. The act of turning a wheel, fixed so high that the handle can only be reached with difficulty when at the highest point of the circle, is a similar exercise, and may be used with the same object. The patient should learn, as soon as may be, to walk with a springy gait, and then do it freely, avoiding fatigue. Thus the very act of walking is made a means of cure. "This, in my judgment," he continues, "is the way to treat flat-foot; but to raise the anterior part by a

sole quite an inch thick, fining off to a line or two at the heel, would be to place the foot in a most unnatural position, and by preventing the necessary bending at the metatarso-phalangeal joints would be fatal alike to good walking and to the restoration of the plantar arch."

Of the excellence of Mr. Ellis's method of treating flat-foot, I can speak in the highest praise. During the last five years, I have treated in the orthopædic department of St. Bartholomew's Hospital, some hundreds of cases in this way, and with very encouraging results. To all cases, however, this method is unfortunately not applicable. Amongst the poorer classes, who apply for aid at the hospital, the flattening of the foot has often been so neglected, that the bones are rigidly fixed in the deformed position, and nothing short of wrenching under an anæsthetic, and the forcible re-position of the bones, is in such of any avail. In these cases, however, when the pliability of the foot has been restored, the prevention of a return of the deformity is best ensured by, amongst other exercises, the tip-toe method of Mr. Ellis. There is another class of cases also to which Mr. Ellis's method is not applicable—I mean those in which, in addition to flattening of the arch of the foot, extreme pain on flexion and extension is complained of in the metatarso-phalangeal joint of the great toe. Here the patient is quite unable to raise himself on tip-toe, owing to the pain which the movement produces. The cause of the pain in this joint is obscure. Sometimes a slight amount of thickening of the bones exists; but at other times, beyond the pain, nothing abnormal is discoverable. For this class of cases some months' rest appears to be necessary. I have had but little experience of Mr. Mayo Collier's boot; and, theoretically, it does not commend itself to my judgment. Theory and practice, however, do not always coincide. I have applied it, therefore, to several cases, to which it appears suitable; and, although sufficient time has not elapsed to speak definitely of the results, I am bound to say that so far patients have expressed themselves relieved by its use.

2. The treatment of congenital club-foot.

Dr. Lewis W. Marshall (*Lancet*, Jan. 9, 1886) advocates the following plan of treatment:—1. The division of the tendo Achillis only at or about the eleventh month, *i.e.*, just before the child begins to walk; 2. The application of Barwell's springs ten days after the division of the Achilles tendon; 3. The use of a removable splint on the same lines; and, 4. Shampooing, faradisation and exercises by Ling's system. He believes that no tendon other than the Achilles requires division.

Dr. Garden showed a boy at the Aberdeen, Banff, and Kincardine Branch of the British Medical Association (*Brit. Med. Journal*, 1886, vol. i., p. 885) on whom he had operated eight weeks previously for talipes equino-varus. The distortion had been excessive, the back of the foot being applied to the ground. The anterior part of the astragalus and os calcis, together with the whole of the scaphoid and cuboid bones, were removed, the foot put into position, a simple dressing applied to the wound, and the parts secured in a plaster of Paris bandage three weeks after the operation. The result was exceedingly good, the foot maintaining its proper position, and the ankle-joint being freely movable.

Professor Verneuil (*Lancet*, June 5, 1886) removed the scaphoid, cuboid, astragalus, and part of the os calcis for a severe case of club-foot, dressing the wound with iodoform. The patient made a good recovery, and was able to walk fairly well.

The benefit that can be obtained by tarsotomy in inveterate cases of club-foot is undoubted. I have operated on several such cases during the current year at St. Bartholomew's Hospital, and the favourable opinion I had previously formed of the operation has, if anything, been strengthened. In one case, that of a man aged twenty-two, the result was most striking. He had suffered from club-foot from birth, and was so crippled that he came to the hospital to have his foot amputated. The deformity was extreme. I removed the scaphoid, astragalus, and cuboid, and part of the os calcis, external malleolus, and cuneiform bones. The foot was now brought into a good position, and placed on a back splint, with a foot piece. The patient made an excellent recovery, with fair movement at the ankle-joint. He could walk well on the foot. It cannot be too strongly insisted on, however, that tarsotomy should be reserved for inveterate cases, and that such extensive operations as the above-mentioned should only be employed as a substitute for amputation.

Mr. Robert William Parker contributes an interesting paper (*Brit. Med. Journ.*, July 3, 1886) on this subject, in which he advocates subcutaneous division of the ligaments as a means of treatment. "The ligaments chiefly at fault are those placed on the inner border of the deformed foot, namely, the anterior portion of the internal lateral ligament of the ankle, the astragalo-scaphoid, and the calcaneo-scaphoid, all three being blended into one indistinguishable capsule of great strength."

"In a less degree, the capsular ligaments between the scaphoid and the internal cuneiform bone, and between the latter and the first metatarsal bone are at fault. In inveterate cases, the long and short calcaneo-cuboid ligaments are also involved. Hence it

follows that tenotomy leaves the major part of the anatomical conditions unaltered. The posterior ligament of the ankle may occasionally require dividing where the equinus portion of the deformity is much marked. This is best accomplished by means of a small spear-headed knife, which should be passed through the tendo Achillis in the direction of its fibres, and then turned flatways and passed through the posterior ligament about its middle, cutting first on one side then on the other." The directions he gives for dividing the ligaments are as follows: "A curved tenotome should be entered immediately in front of the anterior border of the internal malleolus, the blade as far as possible being kept between the ligaments to be divided and the subjacent skin." The blade is then turned and the ligament divided. Any deeper bands that spring up as the superficial yield should also be severed. The posterior tibial tendon, and sometimes the anterior also, will generally be cut. The plantar ligaments are best reached where they pass between the two bones by a straight tenotome, entered as nearly as possible over the joint. The after-treatment consists in placing the foot in plaster of Paris in the rectified position for a week or a fortnight, and then commencing physiological after-treatment by manipulation, massage, &c.

3. The treatment of plantar varus.

Mr. Jones has invented (*Brit. Med. Journ.*, Jan. 9, 1886, p. 75) a cheap and useful splint for application to the foot after division of the plantar fascia. It is a modification of a splint with which Mr. Thomas sometimes treats disease of the ankle. It is made of iron, the foot-stem being curved with the concavity pointing towards the sole. To this stem is attached a crossbar with holes at each end, through which the bandage is introduced, in order to forcibly pull the foot straight. A large pad of cotton-wool is placed on the prominent dorsum, its position being often changed, so as to avoid the risks with which continuous pressure threatens the tissues over thinly-clad bones. The advantages offered by the splint are its simplicity, ease of application, and efficiency. The portion of the sole operated upon is always in view, and if any bands of fascia become tight, as the foot becomes stretched, they can be divided, the splint remaining *in situ*.

4. Treatment of congenital dislocation of the hip.

Mr. Adams (*Brit. Med. Journ.*, Nov. 7, 1885) recommends the maintenance of the horizontal position for at least half the day during the period of active growth, combined with gymnastic exercises taken in the horizontal position, or on the exercising plane, and also the use of the trapeze bar. He says, "I have found in young children, and sometimes at later periods, that the

head of the bone can be brought into what may be considered its natural position by extension after the administration of ether, or gradually after the application of weight extension. The great trochanter descends to its normal relations with the anterior superior spinous process, but the improvement gained is quickly lost, and no permanent good is obtained." He has found no benefit from tenotomy, and strongly opposes any such operations. Mechanical supports of all kinds he condemns. He has, therefore, "abandoned all hope of producing any improvement in the actual condition of the parts at the hip-joint, and limits his endeavours to the diminution of the late consequences of the affection, more especially when one joint only is affected, to the prevention of the tilting of the pelvis, and lateral curvature of the spine." Any inequality in the length of the legs, when the dislocation is limited to one side, is compensated for by the wearing of a high boot.

Mr. Mayo Robinson (*Brit. Med. Journ.*, Nov. 7, 1885) advises a high shoe in this affection to correct the tendency to lateral deformity, and massage and galvanism to improve the muscles.

Dr. Buckmaster Brown, of Boston, U.S.A., (*Brit. Med. Journ.*, July 24, 1886) relates a remarkably successful case of double congenital dislocation of the hip treated by prolonged and constant mechanical extension, and passive movement of the head of the femur against the pelvis in the natural position. "The muscles gradually gave way, and allowed the femora to be permanently retained *in situ*"; and, after eighteen months of this treatment, the heads of the bone were found to be firmly located in their new position, and could not be displaced upwards by forced manual pressure." Subsequently, for six months, the patient was kept at rest, and then allowed to get about on a machine which supported her by the perinæum and arm-pits. The machine was worn for a further eleven months, and, finally, the patient recovered completely and could run and walk like other children.

5. The treatment of lateral curvature of the spine.

Dr. Staffel (*Deutsche medicinische Wochenschrift*, 1886, No. 35, p. 606) describes an apparatus which he now extensively uses in place of the corset recommended by him in the *Berliner klinische Wochenschrift* for 1885, and of which a short account was given in the "Year-Book" for 1885, p. 157. His present support consists of a pelvic girdle of the ordinary description. To the back of this a single upright is attached. To the top of the upright a broad indiarubber band is fixed, and is carried over the projecting dorsal curve under the axilla, then obliquely downwards across the chest and abdomen, round the loin over the lower or dorsi-lumbar curve, and is fixed by straps to the pelvis

girdle. Thus, elastic pressure is made on each curve, and a spiral pull exerted on the spine in an opposite direction to the existing curves. The upright is provided with a strong spring in the centre, so as to allow of the bending of the back. Should the pelvic girdle tend to slip upwards, it can be secured by a thigh-band. This apparatus of Dr. Staffel's is exceedingly ingenious, and, for slight cases of lateral curvature, would appear to be effective. Like all other forms of apparatus, however, it is open to the criticism that for slight cases it is not necessary, as such can be better and more scientifically cured by a judicious course of exercises, with appropriate posture and partial recumbency. For severe cases a more effective means of support would generally be required.

Dr. Staffel (*ibid.*) also describes a bandage for correcting stooping habits in boys. It consists of a broad piece of indiarubber bandage, 10 to 20 centimetres long, to which are attached four stout leather straps, two above, two below. The upper straps are carried over each shoulder through the corresponding axilla, and then buckled together across the back. The lower straps are carried forward and downward over the hips, through the fork, and then upward along the fold of the nates, and buckled to the same strap opposite the crest of the ilium. The piece of rubber bandage which is thus fixed in the middle of the back, exercises a certain amount of elastic tension on the spine, helping, Dr. Staffel believes, the erector spinæ. The objections which I would raise to the bandage are, that if the straps are buckled sufficiently tight to put the rubber on the stretch, they are apt to chafe the parts and cause sloping shoulders, whilst, if applied loose enough to be worn with comfort, the elastic bandage is not put on the stretch.

Mr. Noble Smith (*Brit. Med. Journal*, Dec. 12, 1885) sums up a paper on this subject, in which he touches upon the various methods of treating this affection, by saying, "I think we should rather shape our treatment in accord with the requirements of the case, and the circumstances of the patient, than try to adapt the patient to the kind of treatment to which we may happen to be most attached." The excellency of this advice requires no comment.

6. The treatment of torticollis.

Dr. Robert Bartholow, U.S.A. (*Brit. Med. Journal*, 1886, vol. i., p. 272), has derived most excellent results from the combined use of faradism and galvanism, in obstinate cases of torticollis. The continuous current is applied to the contracted muscles, while the slowly interrupted current is used on those in a state of paresis.

7. Treatment of caries of the spine.

Dr. Walters (*Brit. Med. Journal*, Oct. 31, 1885) advocates the following method of applying the plaster of Paris jacket in the treatment of this disease:—In addition to the usual crinoline bandage, impregnated with plaster of Paris, he cuts out three shaped pieces for the pelvic region of the same material, and roughly resembling the broad linen collar formerly worn by boys. The concavity of each of these fits into the hollow of the loins, while the convexity comes over the hips and upper part of the sacrum, and the somewhat less curved ends are crossed in front above the pubes. Two crescent-shaped pieces are also applied with their concavity downwards over each hip, and two nearly straight strips, cut rather broader than the ordinary bandage, are placed at the top of the jacket. The use of these strips, he considers, renders fewer turns of the ordinary bandage necessary, and thus both strength and extreme lightness are obtained.

8. The early operative treatment of suppurative inflammation of the vertebræ.

Under this head Dr. Dollinger, in the *Wiener medicinische Wochenschrift*, 1885, No. 52, describes a method which he has practised in some ten cases of opening psoas abscess in a very early stage, and draining through a counter-opening in the loin. Under strict antiseptic precautions, he makes an incision from just behind the anterior superior spine of the ilium, close above the crest, and continues it parallel with the crest for 6 or 8 centimetres backwards. After having divided the three muscles forming the abdominal wall near their insertion in the crest, he presses the abscess forward with his hand towards the wound, and, keeping close to the bone to avoid the peritoneum, makes a free incision into the abscess wall. The pyogenic membrane is destroyed by swabbing out the abscess cavity with chloride of zinc. A counter-opening is then made in the loin at the outer edge of the quadratus lumborum, and the wound antiseptically drained. Of the ten cases operated on, one died a year afterwards of tubercular meningitis; in two cases an abscess formed on the opposite side subsequent to the operation.

It is questionable whether operative treatment in such cases is advisable, seeing that under appropriate treatment for spinal caries, an abscess may at times dry up, or disappear after aspiration repeated several times if necessary; whereas, notwithstanding antiseptic precautions, the patient must run certain risks if the abscess is opened.

SURGICAL DISEASES OF CHILDREN.

BY EDMUND OWEN, F.R.C.S.,

Surgeon to the Hospital for Sick Children, Great Ormond Street, London, and to St. Mary's Hospital.

1. Abdominal sections.

Reference was made in the "Year Book" for 1885, p. 175, to several cases of this nature. An important addition to the series is reported in the *Australian Medical Journal*, April 15, 1886, by Dr. Cleaver Woods.

In a female infant, fretful and emaciated, a hard mass occupied the whole of the right side of the abdomen, the skin over it was tense and shiny. It was quite fixed even in the deepest inspiration; aspiration drew off only a little blood. The distress was so great that the poor child actually bit through one of its fingers. Under the strictest Listerian precautions, an incision was made through the thin coverings directly over the tumour and some adhesions to the liver were torn through. The tumour was removed; it weighed 2 lbs. 5 oz., and proved to be a cystic sarcoma with muscular fibres. The patient made an excellent recovery.

The report is a very cheering one, and may have the effect of inducing the surgeon to do more in the way of exploratory abdominal section and heroic operation. The writer confesses that he has had to content himself in many a case of probably malignant tumour of the abdomen with merely watching the gradual and, as he has thought, inevitable decline of his patient. Parents—with whom the responsibility of deciding whether exploration should be performed or not—must be made thoroughly to understand the risk of possible or probable failure, and of the danger of shock, and then the child may be afforded the slender hope which operation may hold out. And, it must be remembered, no treatment short of operation can possibly avail.

2. The treatment of intussusception by inflation and massage.

Dr. W. B. Cheadle (*Lancet*, Oct. 23, 1886). "In these days of the apotheosis of abdominal surgery, instances of the cure of intussusception by inflation and manipulation of the abdomen deserve to be recorded as a useful reminder of the value and efficacy of the milder method. Three consecutive cases have been successfully treated in this way at the Hospital for Sick Children during the past eighteen months—two under my own care, and a third under that of my colleague, Dr. Barlow." The first case is that of a boy of five months, who was admitted with constipation, vomiting, and the passage of blood from the rectum. "The abdomen was not greatly distended, but more resisting to palpation than usual, and the handling evidently caused discomfort. Passing from side to side, about an inch above the level of the umbilicus, an elongated sausage-like tumour could be distinctly felt. Injection of air was performed by a Higginson's syringe; four syringefuls were introduced, and kept in by pressing the folds of the buttocks and the skin of the anus closely round the base of the nozzle of the syringe. At the same time the abdomen was kneaded externally. It was found that at least three persons were required to carry on these operations satisfactorily—viz, one to work the syringe, one to compress the anus and prevent the escape of air, and a third to manipulate the abdomen." The tumour disappeared and the child recovered.

The second case, a boy of five years and a-half, was very similar—the child had passed blood. "Examination showed the abdomen unduly distended, and a large sausage-like tumour could be felt, extending from the lower epigastric region to the left hypochondrium."

The third case is that of a female infant of six months; she "was a healthy-looking child, but evidently in great pain, screaming and kicking continually. The right side of the abdomen felt empty, especially in the region of the cæcum; while on the left side there was a tumour, seemingly about two inches thick and some three inches and a half long, lying transversely from just above the umbilicus to the left hypochondrium, and there curving slightly downwards. It was freely movable and firm; no impression could be made upon it. Intussusception was diagnosed, and the child was forthwith placed fully under the influence of chloroform. The above position of the tumour was then verified. Nothing could be felt in the rectum, but a little blood escaped. The bowel was inflated, as in the previous cases, with a Higginson's syringe, and the abdomen was kneaded by the hand; the

tumour could be felt receding as inflation proceeded, until the abdomen was fully distended."

Mr. Clement Lucas (*Lancet*, Jan., 1886) also refers to the inflation treatment, and suggests that the best way of carrying it out is to anæsthetise the child and to hang him, head downwards, by the legs and thighs, with the back to the operator. He closes the anus by a conical pad of lint which is wrapped around the base of the tube. Should the inflation be succeeding, the assistant who has his hand on the abdomen will feel the tumour gradually sinking away, and a gurgle of air will probably be heard.

This subject was discussed in the last "Year-Book of Treatment," p. 174, where it was remarked that the only time to try it is in the early hours of acute strangulation, and that, if it be found inefficacious, there must be no subsequent resort to it. Dr. Cheadle's records are extremely important, and will, doubtless, receive the attention which, especially at the hands of surgeons, they so eminently deserve.

3. Nephrectomy.

Mr. J. Lloyd (*Brit. Med. Journ.*, Jan. 2, 1886) gives a brief report of a case of removal of a kidney and dilated pelvis as large as a foetal head, which was successfully effected by the lumbar operation from a boy of five years. The disease was intermitting hydro-nephrosis, with great pain and constitutional disturbance.

This was a very large tumour to remove through the loin, and in these days, of what Dr. Cheadle calls "the apotheosis of abdominal surgery," it is well to note that even in a child an enormous renal tumour can be efficiently and successfully dealt with by an extra-peritoneal operation.

4. Partial dislocation of the head of the radius.

Dr. S. H. Lindemann (*Brit. Med. Journ.*, Dec. 5, 1885) and Mr. J. Hutchinson, jun. (*ibid.*, Jan. 2, 1886)—see also *Annals of Surgery*, Aug., 1885, and other papers in the *Journal* for 1886—call attention to the insecurity of the head of the radius in the capsule of the elbow-joint in young children. The imperfectly developed disc of bone is apt to slip out through the orbicular ligament when the child is pulled up by the hand, as in being dragged up-stairs, especially if the hand be in the position of pronation. There is no characteristic deformity following the injury, so that its nature is apt to be overlooked. The elbow is swollen and tender.

Reduction is best effected by flexing the elbow to less than a right angle (so as to bring the radial head up to the capitellum), and at the same time gently but fully to pronate the fore-arm;

this movement "screws" the head of the radius back through the circular opening in the capsule. After this the elbow had better be kept flexed for a few weeks.

5. Circumcision under the influence of cocaine.

Dr. J. M. Atkinson (*Lancet*, July 17, 1886) reminds one of the fact that, after the injection of a few drops of a 10 per cent. solution of cocaine, the prepuce may be removed and sutures applied without causing any pain. The child on whom he thus operated was the subject of a diseased heart. In such an operation the boy's face should be covered up and some one should be talking to him the while.

6. Supra-pubic lithotomy.

This holds a position very different from that which it occupied before Dr. Garson showed how, by distension of the rectum, the bladder and its superior peritoneal fold could be raised so far above the pubes that the high-operation for stone could be easily accomplished without risk of opening the peritoneal cavity.

From time to time large stones in children have been successfully removed above the pubes; but from the days of Cheselden English surgeons have found reason to be content with the lateral perineal incision for the extraction of small stones. But now the supra-pubic operation is resorted to even in the case of small stones; it has suddenly become the "fashionable operation" in the surgery of childhood. It would be premature to term it an improvement in the treatment of calculous children, as it has not yet been sufficiently submitted to the test of time and experience. It is to be hoped that every case will be recorded for a few years, regardless of the result, so that the surgical statistician may have a sufficient number of records on which to draw up a table and base some practical conclusions. The publication of records of successful cases only is extremely misleading.

Mr. R. W. Parker (*Lancet*, July 3, 1886) records a case of the high-operation in a rickety boy of three years. He inflated the rectum with an indiarubber bag, and distended the bladder with a warm boric solution, placing an elastic ligature round the penis.

The bladder "was quickly reached, and exposed through a median incision; a curved needle was passed through its coats on each side of the median line armed with silk, which was then used to raise and steady the bladder, and in some measure to retract the orifice of the incision which was now made into it with a small scalpel. The stone was quickly withdrawn by means of a small lithotomy forceps. After this, the cavity of the bladder was explored with the finger to make sure that it was empty. A catheter was passed through the urethra, and a quantity of

warm boracic solution injected in order to wash out any blood-clots, and for the purpose of thoroughly purifying the wound." The incision into the bladder was closed with fine chromic gut; "the edges of the rectus muscles were brought together, and finally those of the incision through the external abdominal wall. A sprinkling of iodoform dust was applied to complete the antiseptic precautions; over this a pad of lint and a quantity of mercuric absorbent wool were fastened on with a flannel bandage. He was given tincture of opium, and kept very quiet for some hours after the operation. The dressing, having remained quite dry, was not changed for forty-eight hours. He had passed urine per urethram in natural quantity without effort or pain. On the fourth day after operation, the dressing was again changed. The wound being apparently healed, the external sutures were removed, and a broad band of fenestrated strapping was applied. The urine was of neutral reaction, and did not contain any albumen. The temperature remained normal throughout; the union gradually became firmer, was fully cicatrised in a fortnight, and the boy discharged well on June 20, sixteen days after the operation."

Sir Wm. MacCormac (*Lancet*, Sept. 25, 1886) also details a case of the high-operation in a boy of seven years and a-half, and remarks that the peritoneum was not seen throughout the procedure.

Mr. Bernard Pitts (*Lancet*, Oct. 23, 1886) similarly operated on a boy of three years and a-half, for a stone of the size of a small marble; in a week the wound was completely healed, and the boy left the hospital.

A. Schmitz (*Archiv f. klin. Chirurgie*, Bd. xxxiii, p. 426-506), gives the analysed result of all operations for vesical calculus performed in the Children's Hospital, St. Petersburg, since 1870. These amount to ninety-five in all, and from their results Schmitz concludes that lithotripsy is not to be recommended in children, unless an undoubtedly phosphatic stone be found in a female child. Of other operations, he finds that the high-operation for lithotomy is very dangerous, mainly from septicæmia. He considers that, even though the danger may be diminished, as by suture of the bladder and other modifications of the operation, yet the high-operation should be reserved for those cases where the size of the stone or other difficulties prevent the perineal operation being performed. For most cases, the latter operation is recommended, the median being preferred to the lateral section.

Reference may also be made to the *Lancet* of Jan. 2, 1886, and Oct. 9, 1886, in which Prof. Annandale advises, that before proceeding to open the anterior surface of the bladder, the stone

be caught between the blades of a slender lithotrite, and thus be raised and rendered more readily accessible to the supra-pubic lithotomist. The patient thus treated by him was a boy of four years and a-half, with a small uric acid stone. He first dilated the urethra to the size of a No. 9 English catheter.

It appears to the writer that the dilatation of the urethra to so large a size in a little boy is a serious proceeding, and likely to detract from the value of the simple high-operation. In the case of a larger boy, with a small stone, the surgeon would probably be sorely tempted straightway to crush the stone when once he had seized it with the lithotrite, and then completely to evacuate the bladder. But the recent re-introduction of the high-operation has apparently, at any rate for a while, thrown into dark shadow Bigelow's operation, as modified for children—an operation which a year or two since was beginning to attract considerable attention.

Among the advantages of the high-operation are these:—It is straightforward, and free of the risks of not opening the bladder (as in certain blank lateral lithotomies), of hæmorrhage, of injury to the ejaculatory ducts and rectum, and convalescence is established within a few days after the operation.

On the other hand, there is some risk of wounding the peritoneum, and of urinary infiltration occurring in the loose connective tissue around the bladder, and of subsequent septicæmia. Moreover, it does not afford to the bladder the perfect drain which is secured by the lateral operation.

Supra-pubic lithotomy in boys being yet on its trial, it would here be wrong to attempt a judgment upon it; but the writer cannot help expressing the opinion, and he does it with regret, that Cheselden's operation will henceforth be performed with comparative infrequency, at any rate for a time. It is more than possible, however, that the pendulum will swing back, and leave only very large stones to be dealt with by the supra-pubic method, much as Schmitz suggests.

7. Bone drainage in hip-joint disease.

Mr. W. Thornley Stoker (*Dublin Journ. of Med. Sci.*, 1886, vol. i., p. 385) considers the ordinary classification of hip-joint disease into stages to be imperfect, and proposes that we should speak of only two stages. Firstly, that in which the joint-tissues are inflamed, but as yet in no degree destroyed; and, secondly, that in which destruction of the joint-tissues has supervened. With regard to all joint-diseases, it is known that the cartilages and ligaments are but seldom primarily affected, and that the disease commonly begins in either the synovial membrane or the bones.

Now, it was suggested by Barwell, and in this Stoker agrees with him, that in the hip-joint the disease more frequently commences in the bones than in the synovial membrane, for this reason, that the synovial membrane of the hip is protected from cold and injury, and that the anatomy and development of the bones entering into the articulation render them specially liable to disease. Thus, the epiphysis of both acetabulum and femur, and the neck of the latter bone, lie within the synovial sac, and are, moreover, in early life the seat of great vascular activity, and consequently prone to disease. Mr. Stoker then agrees with the well-known classification into femoral, acetabular, and arthritic forms of the disease, but believes that the first two forms are the most common, and that of these two the femoral variety is specially frequent. It is the treatment of this variety, in the first of his two stages described, that he discusses in the present paper. He strongly advocates trephining the great trochanter and tunnelling the neck of the bone, in order to provide free drainage of inflammatory products. This operation was originally proposed by Kirkpatrick. Mr. Stoker makes a vertical incision down to the trochanter, with its centre over the point at which perforation is to be practised. The bone is then removed "to the full depth of a trephine of half-inch diameter," and additional tunnelling is performed with the drill or a strong director. The wound is filled with narrow strips of gauze, which are removed next day, and is afterwards covered with a moist carbolic dressing. The method is also recommended in later stages of the disease to remove softened bone, or to drain a joint containing pus.

Sir William Stokes (*Dublin Journ. of Med. Sci.*, 1886, ii., p. 142) also advocated the above treatment, remarking that excision was a very unsatisfactory operation in hip-joint disease, because one could rarely thus remove the whole of the disease, and that there was great difficulty in fixing the limb after operation.

In the discussion of the preceding two papers, Mr. Croly maintained that the application of caustic potash after trephining was of importance, and relieved pain and tension. Mr. Kendal Franks recommended scraping out the joint in the arthritic variety of the disease.

Dr. Stoker has done service in finding fault with the ordinary classification of hip-joint disease; one talks of synovitis of the knee or of the elbow, and looks hopefully to an early clearing-up of the disease, but when a certain chain of symptoms—flexion of thigh, adduction, stiffness, and so on—appear in connection with

the ilio-femoral articulation, one is apt to diagnose "hip-joint disease" without attempting to differentiate a synovitis from an arthritis, and so almost to shut out the hope of any good result obtainable, without a complete rest for the joint, during many weary months.

The treatment which Dr. Stoker advises, however, of draining the articulation by a passage through the great trochanter and the neck of the femur, is of a very serious nature, and one which the writer would be inclined to condemn as a routine practice, and to accept, with the greatest reserve, in any stage of disease of the joint. It is either doing too much or too little. It is doing too much if the trochanter and the neck of the femur be sound; it is doing too little if abscess in the joint be associated with caries of the upper end of the femur. With suppurative arthritis it is of the greatest importance to establish a free drainage of the joint; thus it is, for one reason, that excision of the head of the femur affords such a good result. Unfortunately, however, this free opening-up of the joint is often too long delayed.

Sir William Stokes advocates the trephining of the upper end of the femur, on the grounds that the most frequent primary lesion in hip-joint disease is a central osteitis of the trochanter, neck, and head of the bone. Yet, how often does one find, in resecting the head of the femur in old-standing arthritis, that the epiphysis of the great trochanter, which was detached during the operation, is perfectly free of disease; so that one is tempted to leave it in position with its strong mass of tendinous inertion. That trephining may afford some relief in hip-joint disease, by easing tension in some way or another, is likely enough; but Sir William is probably over-sanguine when he likens the operation to "Sir B. Brodie's brilliant achievement of trephining the head of the tibia to evacuate the contents of an abscess." It is true that he would reserve it specially for those cases in which there is evidence that the "lesion is a central osteitis;" but in the present stage of our knowledge, how is one to predicate the site of the lesion with so great precision?

The application of caustic potash, after trephining, is of a highly problematical value; but carefully scraping out the articulation is a matter deserving of all attention.

8. Hip-joint abscess.

Mr. Edmund Owen (*Lancet*, 1886, vol. i., p. 345) has not been very well satisfied with results obtained by the aspirator. He finds that pus exudes, in a few days, from the site of the puncture, even though the instrument used be of small size. Nevertheless, he recommends that aspiration should always start the treatment

of hip-abscess, unless there be severe inflammatory and pressure symptoms. If the pus be thick and curdy, the scalpel must be employed. Similarly, incision may be necessary if the pus re-accumulate rapidly and repeated puncture fail to make headway, or if acute local inflammation and constitutional disturbance follow aspiration. Mr. Owen recommends that after incision the cavity be washed out with a strong solution of zinc chloride, or mercuric chloride, the parts being dressed with iodoform and wood-wool. He finds that after operation, "night-screams" much diminish, and considers that this negatives the prevailing view that these indicate ulceration of cartilage; they are rather due to pressure on nerve-twigs by the distended abscess-walls.

Rinne (*Beilage z. Centralbl. f. Chirurgie*, 1886, p. 71) records two cases of pelvic abscess following morbus coxæ, which healed rapidly after drainage through the ilium. An incision was made, three fingers' breadth, above the great trochanter, the muscles were cut through, and a hole chiselled through the bone. (*Med. Chron.*, vol. v., p. 51.)

9. Spina bifida.

Dollinger (*Wien. med. Woch.*, 1886, No. 7) records a case in which he successfully performed excision of a spina bifida, with osteo-plastic closure of the vertebral canal. The sac had been tapped without any ill effects. Dollinger, therefore, slit up the sac, and cut off short several nerves passing to it. He cut away the dura mater, leaving enough to close the opening. The two lateral rudiments of the fifth lumbar spinous process were broken over and sutured in the middle line. The bones immediately united, the skin sloughed slightly, but afterwards cicatrised, and the child became practically well. (*Annals of Surgery*, vol. iv., p. 66.)

[One would have been glad to hear of the effect of the amputation of the "several nerves."]

Dr. Sinclair (*Dublin Journ. of Med. Science*, 1886, vol. i., p. 199) relates a case of spina bifida which he treated successfully by excision. The tumour was situated in the lumbar region; it was covered by a thin translucent pellicle, injected with a mesh-work of vessels. At the summit of the tumour there was a dimple, which, at the time of the operation, was found to be due to a strong, vascular cord, which was attached on one side to the covering of the tumour, and on the other to the interval between two imperfect vertebral laminae. No alteration in tension occurred when the child cried, and no head symptoms were produced by continuous pressure on the tumour. The tumour was tapped with a fine trocar and canula, and half an ounce of fluid was drawn

off; this contained much albumen. The tumour was completely emptied by one tapping, but it refilled in forty-eight hours. Dr. Sinclair then excised the pellicle, cut through the central fibrous band, and touched the skin edges and the peripheric parts of the base with nitrate of silver. The fibrous band mentioned was found to close completely any communication with the spinal canal. A dressing of boric acid ointment, covered with guttapercha, was applied. No dangerous symptoms followed, and healing was complete in one month.

Schatz (*Berl. klin. Woch.*, 1885, No. 28) reviews at length the prognosis and treatment of cephalocle and spina bifida. Both prognosis and treatment are unsatisfactory. In regard to treatment, Schatz believes that, if reposition be impossible, puncture is the best treatment, after which are to be reckoned operative interference by the knife or the ligature. He publishes three cases, which he treated successfully by "linear compression" of the pedicle, the latter, if it did not previously exist, being produced by the clamp.

In the last "Year-Book of Treatment," p. 180, *et seq.*, attention was fully drawn to the progress of operative treatment of spina bifida. The notes of the cases recorded above are evidence rather of remarkable individual successes than of a definite and assured advance in therapeutics.

10. Intubation of the larynx,

Proposed by O'Dwyer as a "substitute for tracheotomy in diphtheria," has been recently criticised by Dr. Packard, of Philadelphia (*Trans. of State Medical Society*, 1886). The title of the procedure is certainly attractive, but though the writer in the "Year-Book" neither has, nor desires, a practical acquaintance with it, he thinks it expedient to direct attention to it, under the auspices, and with the valuable aid, of Dr. Packard's communication.

Intubation consists in the use of tubes, of graduated sizes, to be passed by way of the mouth down through the larynx. Each tube is oval in section, slightly bulged in its middle portion, and of such a length as to reach from just above the vocal cords well down into the trachea. The operator selects a tube judged to be of the right size; passes a thread through a perforation in the shoulder, and then inserts an applicator, or stem into the same orifice. The child's mouth is now held open, and the tube carried down in the median line and placed in position, when the applicator is withdrawn, and the thread brought out at the corner of the mouth.

It is admitted that much practice on the cadaver is needed to

enable one to insert these tubes readily, and that their removal is often attended with difficulty.

Dr. Waxham (*Archives of Pediatrics*, April, 1886) has held forth the advantages of the treatment as follows :—

“1st. No opposition is met with on the part of parents and friends; quite a contrast to the difficulty with which we usually meet in obtaining the consent to perform tracheotomy.”

One can scarcely suppose that this is seriously offered as an argument in favour of a plan of treatment for cases so grave as those in question. The procedure may, perhaps, seem, in the mere mention, less formidable than tracheotomy.

“2nd. It relieves the urgent dyspnoea as promptly and effectually as tracheotomy; and, if the child dies, there is no regret that the operation has been performed, and no discredit attached to the operator.”

The first part of this statement remains to be proved, but comparing the size of the tubes employed, and which it is possible to employ, in intubation, with that of those ordinarily made use of after tracheotomy, it seems incredible. Discredit is not likely to attach to a surgeon if he have operated skilfully, after clearly and frankly stating the chances for and against success. In dealing with a matter of such vital moment, the idea of personal consequences to the surgeon is insignificant; the only thing to be considered is the course best calculated to save the child.

“3rd. There is less irritation from the laryngeal tubes than from the tracheal canula. As the tube is considerably smaller than the trachea, it does not press firmly at any portion, excepting on the chink of the glottis.”

Can this be so? One knows that the larynx, and especially the glottis, is far more sensitive than the trachea to the presence of foreign bodies.

“4th. Expectoration occurs more readily than through the tracheal tube.”

This is an assertion difficult to receive without proof, which, probably, would be more difficult to adduce.

“5th. As the tube terminates in the throat, the air that enters the lungs is warm and moist from its course through the upper air passages, and consequently there is less danger of pneumonia from this source.”

This statement need hardly be dwelt upon at all, as the proper condition of the inspired air can be so easily secured in any case of tracheotomy where efficient nursing can be had.

“6th. It is a bloodless operation.”

“7th. It is more quickly performed, and with less danger.”

"8th. There is no wound to close by slow granulation, and, consequently, convalescence is more rapid."

These are all minor considerations; tracheotomy, in skilful hands, adds little or nothing to the risk of life.

"9th. There is no wound that may be the source of constitutional infection."

With regard to this point, one can only say that if the wound made in tracheotomy become the source of "constitutional infection," the occurrence is rare. It is generally the constitutional state that interferes with the healing of the wound, and not the wound that damages the constitution.

"10th. The patient does not require the unremitting care of the physician, as in tracheotomy."

Why not? It is not the wound that requires unremitting care; it is the patency of the artificial channels; the free access of air to the lungs, and the overcoming by the systemic poison. These are the great objects of the after-treatment in cases requiring tracheotomy. Are they any less important when the tube is passed through the glottis?

"11th. It is a more successful method of treating croup, either diphtheritic or membranous, than tracheotomy."

This is a bare assertion, which begs the whole question. And it is boldly made, considering that it is based upon *seventeen* cases only.

But the most important objection is probably this: that after the surgeon has left the patient, a tenacious deposit, or a shred of false membrane, may block the tube, as it does so often the inner tracheotomy tube; how can an ordinary nurse be trusted to tide the patient through that crisis? Now, she can take out, leisurely wash or scrape the inner silver tube, and afterwards re-introduce it, but in the former case she would be comparatively, if not absolutely, helpless.

DISEASES OF THE GENITO-URINARY SYSTEM.

BY REGINALD HARRISON, F.R.C.S.,

*Member of Council Royal College of Surgeons of England;
Surgeon to the Liverpool Royal Infirmary.*

1. Choice of operation for stone in the bladder in males and females.

Mr. Cadge (*Hunterian Lectures*, Royal College of Surgeons, June, 1886) summarises his views as to choice of operation as follows:—

“1. In children, litholapaxy should be more adopted than has hitherto been the custom.

2. In male children, when the stone is at all large, the supra-pubic will probably prove to be easier to do, and safer than the perineal operation.

3. In female children, litholapaxy should be the rule for small stones, and the high operation for all large ones.

4. In adult females, litholapaxy or dilatation and extraction should be adopted for stones of moderate size; vaginal lithotomy for those somewhat larger; and the high operation for those of decidedly larger size.

5. In adult males, litholapaxy should be the rule for stones up to an ounce or an ounce and a half; above that size, lateral, or possibly supra-pubic lithotomy—certainly the latter for all stones over three ounces.

6. In the aged, the same rules apply when the urinary organs are healthy; but when the prostate is large, and the bladder atonic, supra-pubic lithotomy should be more adopted, until its success or failure is demonstrated.”

The circumstances determining the selection of a cutting operation when crushing is deemed to be out of the question, are here fairly put, and may be referred to with advantage in all

doubtful cases until the true position of the supra-pubic operation is ascertained by a larger experience of it than we have at present.

In supra-pubic lithotomy, a moderate distension of the bladder with fluid is desirable, but whether any decided advantage is obtained by the use of the rectal bag as advocated by Peterson appears from the testimony of several operators as doubtful. Care, however, must be taken in resorting to either of these preliminaries, as instances are recorded where the bladder has been ruptured by over-distension, and the rectum injured by the use of too much force in endeavouring to increase the supra-pubic area where the bladder is uncovered by peritoneum.

The treatment of the wound in supra-pubic lithotomy still appears to be a debatable subject: some surgeons prefer suturing both the bladder as well as the external wound, whilst others dispense with stitches entirely, trusting to the position of the patient, placing him over towards his abdomen, for securing sufficient drainage until the wound has healed. It appears to me that the latter course is, as a rule, to be recommended, as there is much less risk of extravasation of urine taking place into the cellular tissue immediately in front of the neck of the bladder.

2. Litholapaxy in children.

Surgeon-Major Keegan (*Brit. Med. Assoc.*, Annual Meeting at Brighton, 1886) added important testimony in favour of this proceeding, and referred to the instruments used as follows:—"The lithotrites were fully fenestrated, a matter of vital importance in performing litholapaxy in boys. He said that the No. 6 lithotrite would in the great majority of cases pass readily into the bladder of a boy of three years of age, and that the No. 8 would pass into the bladder of a boy five or six years of age. With such lithotrites and evacuating catheters of corresponding size it was quite feasible to crush and remove a stone of considerable size from a boy's bladder in less than an hour. He advocates the extension of litholapaxy to the treatment of stone in male children in preference to lateral lithotomy, for two reasons: first, on account of rapidity of cure; and, secondly, absence of any cutting operation. He found that in his practice the average stay in hospital of boys after litholapaxy is 7·7 days, as compared with 17 days after lateral lithotomy. He believed that the urethra of male children was much larger than was generally supposed to be the case."

The opportunities for treating stone in the bladder in India are so plentiful that we cannot but attach much importance to the conclusions of those surgeons whose experience has been large. Lateral lithotomy has proved in this country to be such a safe

operation in male children, that crushing has been but rarely resorted to under these circumstances. Nor would it appear that the Indian experience of the cutting operation in male children warrants any other conclusion. Dr. Keegan stated, in the course of his remarks, that Surgeon-Major Freyer, though he had cut 143 boys for stone without a single death, was disposed to give litholapaxy a trial. It has been alleged that the cutting operation for stone is sometimes followed by emasculation. If this were proved to be an occasional consequence, the reasons for crushing in boys would be materially strengthened. The life history of males who had been cut for stone in their youth would be of much value.

3. Supra-pubic lithotomy.

Professor Annandale advocates and illustrates (*Brit. Med. Jour.*, Jan. 2, 1886) the following method of performing this operation:—

“1. The gradual and thorough dilatation of the bladder by the injection of some antiseptic fluid.

2. The introduction of a lithotrite, and the seizing and fixing of the stone in its blades.

3. The depression of the handle of the lithotrite, so as to press the stone against the abdominal wall immediately above the pubes, in the middle line.

4. Cutting down through the abdominal wall, in the middle line, upon the pubes, and immediately above it, in the usual way, until the bladder is reached.

5. Depressing the handle of the lithotrite still more, so as to stretch the wall of the bladder over the stone, and make it prominent at the wound.

6. Incising the stretched bladder wall upon the stone, to a sufficient extent, in a direction downwards, and then protruding, through the opening, the stone and blades of the lithotrite.

7. Gently opening the blades of the lithotrite and removing the stone, and in withdrawing the lithotrite, catching one end of an indiarubber catheter in its blades, and bringing it through the urethral orifice, the other end of the catheter being left in the bladder.

8. Stitching the wound in the abdominal wall, and introducing a drainage tube at its lower end.

If the wound in the bladder wall be small, I think it is better not to stitch it, but if it be large, two or more catgut sutures should be inserted.

The dilatation of the rectum is not, in my opinion, required, and if employed, only complicates the operation.”

It will be observed that by this plan the difficulty which has

been found of extracting the stone by forceps is removed, as the stone is protruded by the lithotrite. If a stone can be so readily seized and manipulated by a lithotrite, why cannot it be crushed and removed by litholapaxy?

4. The use of common salt in relation to the prevention of calculous disorders.

Mr. Plowright (*Med. Times*, Oct. 10, 1885), after an examination of certain facts bearing upon this inquiry, concludes: "In recommending a more liberal consumption of salt by those who are in any way threatened with calculous disease, either by hereditary tendency or by premonitory symptoms, especially those at the two extremities of life who reside in calculous districts."

This suggestion appears to be a valuable one, having reference to the fact alone that the presence of salt increases the solubility of uric acid. I have also shown that there is no better solvent for the thick, tenacious mucus which, by its collection in the bladder of persons suffering from large prostates, favours the formation of phosphatic calculi, than salt and tepid water. It is probable that mucus often furnishes the colloid necessary for the formation of stone, as pointed out by Rainey, Ord, and Vandyke Carter.

5. The treatment of stricture of the urethra by electrolysis.

Dr. W. E. Steavenson and Mr. W. Bruce Clarke (*Proc. Royal Med.-Chir. Soc.*, March—June, 1886) advocate and illustrate this treatment. Its advantages are thus summed up: "There is usually no bleeding. If hæmorrhage does occur, it is accidental, and usually shows that too strong a current has been employed. No anæsthetic is required. If pain or discomfort is produced, it is trifling. The patient can, in the case of slight stricture, pursue his ordinary occupation during the period of treatment. No antiseptics are required, as the process itself is aseptic. In the majority of cases there is no contraction or return of the stricture."

With such advantages as these offered, it is to be hoped that this method of treatment is really productive of permanent good results, for by such an issue will it be gauged. At present, having regard to some trials that have been made in America and elsewhere, I cannot satisfy myself that this has been determined in a sufficiently large number of properly authenticated cases. This method of treatment must therefore, I think, still be regarded as tentative rather than as an admitted success. In some instances it is difficult to decide how much is due to pure mechanism, and how much to electrolysis.

6. Internal prostatotomy for complete obstruction to micturition.

Mr. F. Swinford Edwards (*Lancet*, July 11, 1885) reports a case where for retention, caused by a large prostate, he succeeded with Gouley's prostatome "in punching out a piece of the gland equal in size, I should think, to a couple of peas. Not being content with this, I repeated the procedure, but did not this time bring away so much tissue. There was very little bleeding, and the operation could not have lasted more than ten minutes."

It is impossible to study certain cases where prostatic hypertrophy assumes the form of a bar at the neck of the bladder without recognising how amenable they may be to treatment such as that here referred to. In a somewhat modified form, as recommended by Gouley, Mercier's operation will be found suited to cases of this kind. My impression is that the fear of hæmorrhage has been much exaggerated. Prostatic tissue is not prone to bleed; it is only when the vessels surrounding this part are opened into that hæmorrhage is liable to be serious.

7. On residual urine in connection with prostatic hypertrophy.

I have drawn attention (*Lancet*, March 6, 1886, and August 28) to two distinct kinds of residual urine: (1) that which usually precedes prostatic hypertrophy, and is an indication that the bladder is incapable of emptying itself completely; and (2) that which follows prostatic hypertrophy where the inability is due to the growths which have taken place. The former variety is a constant forerunner of prostatic hypertrophy, and indicates an incompetent bladder requiring artificial assistance. Unless this assistance is forthcoming, hypertrophy of the prostate is certain to follow. By care the power of the bladder can, as a rule, under these circumstances be completely restored. In the advanced form of residual urine where large quantities of mucus and matter are mixed with the urine, regular catheterism becomes necessary to avoid the cystitis which is sure to follow putrefactive changes in the contents of the bladder. In practice it is very important to draw these distinctions.

8. Removal of enlarged prostate.

(*Saint Bartholomew's Hospital Reports*, 1885.) "A man aged sixty-five, who had previously been operated on for calculus vesicæ, was admitted with fresh symptoms of calculus. Median lithotomy was performed; the prostate was found to be very greatly enlarged, and was therefore removed. The patient made a good recovery. A year later he died after another operation for removal of a calculus. A small cavity marked the site of the

excision, a thin capsule of prostatic tissue alone remaining." Here we have another illustration of a method of dealing with growths connected with the prostate, which I believe I was the first to demonstrate in a case where I recorded (*The Lancet*, September 20, 1884) the removal of a carcinomatous prostate, and which enabled the patient to return to his work for a time, and to enjoy entire immunity from suffering.

9. Suction of the male ureters.

Recognising, both for diagnosis and treatment, the importance of determining the precise condition of each kidney, as evidenced by the state of the urine, Mr. E. Hurry Fenwick (*The Lancet*, September 18, 1886) has described an apparatus he has used in the male for the collection of the urine as it flows from each ureter. As, however, Mr. Fenwick refers to its action as being "not infallible," the instrument, though good in principle, and worthy of mention, must at present be regarded as suggestive rather than as representing an accomplished fact which in practice can be relied upon.

10. On bladder drainage by a post-prostatic operation.

Mr. E. H. Howlett (*Brit. Med. Jour.*, Feb. 13, 1886), in advocating the advantage attending continuous drainage in certain affections of the bladder, describes the following method of operating:—"The patient is placed in the lithotomy position, and if the bladder be contracted, it can be filled from the urethra in most cases. The forefinger of the left hand is then passed into the rectum, and made to explore the prostate and inferior surface of the bladder. Some sort of idea can then be formed of the distance the trocar will have to travel to reach the bladder, and the direction. The forefinger being retained in the rectum, a trocar and cannula of the size of a No. 12 catheter is thrust through the skin about three-quarters of an inch in front of the anus, and slowly pushed on till resistance is felt to have disappeared; the trocar is then withdrawn and the bladder emptied. In my cases the metal cannula was maintained, but it would be better to pass through it into the bladder a No. 8 red elastic tube, and withdraw the cannula. It is a great advantage to be able to introduce so large a tube, as the chances of its becoming blocked are reduced to a minimum. Finally, to make the patient comfortable, a tube is attached to the catheter, and the urine drained into a bottle. To retain the catheter, Mr. Appleton, of Beverley, devised a very simple apparatus. It consists of a triangular piece of thick leather with a hole in the centre, through which the catheter passes. One small hole behind, and others at either of the front

corners, permits the tapes passing, which are attached to a belt round the loins." This operation is illustrated by two cases, one of a boy where it was desirable to keep a wound, made for the purpose of remedying a complete epispadias, dry, and the other of a man suffering from slight prostatic enlargement with a feeble dilated bladder. In both instances the operation fulfilled the objects desired. The condition of the second case, when shown at a medical meeting, five months afterwards, is as follows:—"He was then wearing the perineal tube, the outside portion of which was clamped and fixed to a belt round the waist. The patient is now able to micturate at will without any trouble. During the night, instead of draining into a vessel, he prefers to get up once or twice and turn on the tap, a much simpler operation than micturating. He has gained three-quarters of a stone in weight, and altogether expresses himself as being in a more comfortable condition than he has been for months past, that is before the operation."

This will be found a valuable addition to our resources for tapping and draining the bladder, as it neither interferes with the rectum nor the urethra, and consequently it is well adapted for cases involving plastic operations on the urethra. As a merely temporary expedient, as in cases of urgent retention of urine, where catheterism is found to be impossible, it is not likely to take the place of aspiration above the pubes, which is simple, safe, and efficient. For continuous drainage in the hands of surgeons who are accustomed to operate on the bladder, the post-prostatic operation is likely to be of service occasionally.

II. An aseptic catheter for washing out the bladder.

Dr. J. Foulis (*Brit. Med. Jour.*, Jan. 30, 1886) describes and figures an apparatus of this kind, remarking that, "after sepsis has been once fairly set up in the bladder, it is extremely difficult to cure it. We cannot pour into the bladder such a strong germicide solution as will at once permanently destroy the organisms without at the same time injuring the bladder; besides, the organisms travel along the various ducts which communicate with the bladder, and are out of reach of antiseptic solutions, and they keep up the sepsis in the urine by freshly infecting it after the bladder has been over and over again washed out."

Of the truth of this observation there can be no doubt, as we have evidence of it in the discharge of gonorrhœa, and the transference of tuberculosis to all parts of the urinary apparatus, when once these bacilli are introduced. The apparatus described, which consists of a reservoir and a contrivance for rendering the introduction of air into the bladder impossible, will, I have no doubt, prove useful in practice.

12. Silk ligatures for the radical treatment of varicocele.

Dr. Keyes (*New York Med. Record*, Feb. 20, and Sep. 18, 1886) advocates the use of silk for ligaturing varicoceles subcutaneously. He observes, "In April I operated for the first time with ordinary twisted surgeon's silk, rather fine. I prepared it by boiling it in simple water, and carried it to the hospital in a bottle full of alcohol and bichloride of mercury, one in one thousand.

"The case was a very bad one, the veins large, the tissues lax and pendulous, the patient anæmic and feeble. My patient had not a bad symptom, got up at the end of the fifth day, and left the hospital on the sixth day. I have seen him recently, three months after the operation. A solid cord replaces the site of the former wormy bunch of veins. The veins are patulous below, but shrunken, and the patient has lost the discomfort and dragging pains formerly complained of.

"I have operated since the middle of April upon five cases with silk, my house-surgeon at Bellevue, Dr. Mitchell, upon two. My patients remain in bed five days, and always leave the hospital at the end of the week. No dressing is made, the testicle being simply supported upon a piece of rubber plaster passed across the thighs beneath the scrotum. Sometimes an anodyne for a couple of days is required, sometimes a laxative. I have never used an anæsthetic, except sometimes a local injection of cocaine hydrochlorate at the time of operating. I have never seen a bad symptom, never a drop of pus. Whether the silk is absorbed or not I do not know; certainly the small, hard lump remains about the cord more than three months, gradually growing smaller, and painless.

"One strong incentive, which caused me to experiment with silk, was a letter from a physician, one of my catgut operations, received in April, which informed me that he feared that the vein tied with catgut had in his case again become pervious. I think this may perhaps occur in some cases after catgut, but believe it impossible if silk is used.

"I have modified my needle. The front eye carries the ligature; the loop of silk passes through the other eye and is held tense over one of the steel buttons in the handle of the needle.

"I see in Bell's article in the 'International Encyclopædia of Surgery,' vol. vi., p. 589, which appeared in June of the present year, that Mr. Barker has used silk antiseptically applied through a puncture made by a knife. The silk is cut short and left in.

He dresses with salicylated wool, and reports that his patients have no suppuration, and leave the hospital in 'ten days or a fortnight.' This method seems less good and less speedy than the subcutaneous application of silk by the aid of a needle.

"How long silk has been used subcutaneously, and by whom it was first employed in this manner for the cure of varicocele, I cannot say. It is quite possible that the practice is very ancient, but I had not heard of it when I began to use silk.

"That it has been so used since January, 1878, is proved by a short article in the August number (1886) of the *Annals of Surgery*, from the pen of Mr. Ogston, of Aberdeen. I received this journal to-day, August 9. He uses carbolised silk, dresses for three days with salicylic wool, and says that 'at the end of three weeks the patient can safely walk about, using, however, a suspensory bandage, and being careful to avoid strain, pressure, or fatigue of the part.'"

Catgut ligatures alone are not sufficient to excite that degree of adhesive inflammation of the veins which is necessary for their permanent obliteration in this affection, hence silk appears to be preferable. In an operation for varicocele I described some years ago, which consisted in exposing the veins by an incision, and ligaturing them in two places with catgut, I found that this was not enough; in subsequent operations, in addition to the ligatures, the veins were lightly touched with the thermo-cautery. This answered admirably. I have seen cases thus operated on, after five or six years' trial, remain perfectly free from any signs of a recurrence. The use of silk, as Dr. Keyes suggests, will be found an improvement.

13. Varicocele treated by scrotal incision and ligation of the veins.

Sir William MacCormac (*British Medical Journal*, March 13, 1886), illustrates this method of treatment by six cases where it had been successfully employed. In each instance a large mass of plastic material was formed around the divided ends of the veins, and their perfect obliteration was ensured. After the scrotal tissues had been divided, it was quite easy to separate the packet of veins from the *vas deferens* and then to apply catgut ligature. When they were considerably elongated, a portion of the veins was excised. By means of a pelvic support (illustrated) a plan of cross-bandaging over the perinæum could be readily applied, by which the antiseptic dressing was kept securely fastened at a point which is otherwise difficult to make safe against external influences. "In all the cases the operation was one of *quasi* necessity, since the individuals had been refused

admission to the public service, which they desired to enter, until the varicocele was cured."

This plan of treatment has now been proved to be so effectual as to deserve more general recognition. It seems applicable to almost all cases of varicocele which are sufficiently large as to interfere with the comfort of the individual.

VENEREAL DISEASES.

By ALFRED COOPER, F.R.C.S.,

Surgeon to the Lock Hospital.

1. The general treatment of syphilis.

Dr. Wilson, of Liverpool, read a paper on this subject at a meeting of the Liverpool Medical Society, Nov. 19, 1885 (*Lancet*, March 27 and April 3, 1886). The main object of the paper was to demonstrate the superiority of the course of treatment adopted at Aix-la-Chapelle over methods pursued in England. Dr. Wilson described at considerable length the details of the inunction treatment, which he regards as the best method of administering the drug, provided that three conditions are fulfilled: (1) The skin must be prepared for the absorption of the mercury, and the grey ointment must always be administered carefully and in sufficient quantity; (2) Diet and hygienic surroundings must receive special attention during the treatment; and (3) the inunction must be carried on for a sufficient time. A warm bath at 96° prepares the skin for the inunction, which should generally be done by an experienced rubber and not by the patient himself. During the course one or two tumblers of the sulphur-water are to be taken daily; the patient should breathe fresh and pure air, avoid risk of catching cold, take simple and nourishing food, and plenty of good milk. The patient's mouth should be kept scrupulously clean, and often rinsed with a wash containing acetate of alumina. For primary syphilis, forty to fifty rubbings should be given without a break. Dr. Wilson thinks that increase of weight is the best indication of the good effects of the remedy, and that when the normal weight has been reached, there is no good in pushing the drug much further. He considers, however, that from ninety to a hundred rubbings are required to constitute a full course, which should be followed by the use of iodide of potassium in small doses, with the object, as Dr. Wilson states, of

keeping up the good effects of the mercury. In the discussion which followed (*Med. Times*, Dec. 12, 1885), most of the speakers concurred in the opinion that inunction is too dirty and too tedious a process to be employed, except by the well-to-do or in hospitals. Opinions differed as to whether the Aix waters had any specially good effect in the treatment of syphilis.

2. The treatment of syphilis by mercury.

Mr. Jonathan Hutchinson, in his Lettsomian Lectures on some "Moot Points in Syphilis" (*Lancet*, Jan. 23, 1886), stated his own rules of practice with regard to treatment. He prescribes grey powder in one-grain doses three to six times a day, prolonged over a period of six months, with the usual result of preventing the occurrence of secondary symptoms when given to a patient with an indurated sore. He asserted that he had never in any single case of late years seen a severe skin-eruption develop itself after a mercurial course of this kind. In a large majority of cases, a six-months' course of small doses appears to effect a complete and permanent cure of the disease. He believes that mercury manifests antidotal power in that it can not only remove but anticipate and prevent by far the most conspicuous manifestations of the disease. He thinks that syphilis may have a tendency to develop itself by a series of successive waves, or that possibly such phenomena may be connected with the intermittent employment of antidotal treatment. He considers that the claim of mercury to rank as an antidote is strengthened by the recent experience of the antiseptic power of weak solutions of the perchloride.

3. Syphilis treated with the tannate of mercury.

Dr. J. Inglis Parsons (*Medical Times*, Dec. 26, 1885), records seventeen cases of syphilis treated at the out-patient department at Guy's Hospital with this preparation. It was given in the form of a pill, taken three times a day an hour before meals, the ordinary dose being two grains. Opium was not required to be added to it, as no irritation of the bowels was produced, and it seemed possible to continue the administration of the tannate for any length of time without disturbing the system. The effects on the syphilitic symptoms, the majority of which were of a secondary character, were uniformly satisfactory; but the average length of time during which the patients were under treatment was only five weeks. Dr. Parsons gives, in a tabular form, short details of each case.

4. Sarsaparilla and Iodine in the treatment of syphilis.

Dr. Bidentkap (*Viertelj. f. Derm. und Syph.*, 1886, Heft I,

p. 144), after alluding to the disrepute into which sarsaparilla has fallen as an anti-syphilitic remedy, expresses the opinion that it is very useful in some cases, and especially in the later stages of the disease. He cites the case of a patient, the subject of severe and obstinate gummatous processes, involving especially the face. The cartilages of the nose were almost completely destroyed, the ulceration had caused great loss of substance of the upper lip, and the process, accompanied by infiltration, was still going on. Iodide of potassium and scarifications were tried, but without effect. A year afterwards, the ulceration having slowly advanced in the interval, decoction of sarsaparilla was administered, and in fifteen weeks, all the ulcers had healed and the infiltration had disappeared. Three kilogrammes ($6\frac{1}{2}$ lbs.) of sarsaparilla were thus administered. No relapse occurred. Dr. Bidentkap admits that so favourable a result cannot be expected in all cases, and that the drug is useless in the early or eruption stage. He gives the iodide not only for tertiary symptoms, but also during the early part of the secondary stage, if febrile movement and periosteal swellings are prominent symptoms.

5. On some practical points in the treatment of syphilis with inunction of mercury.

Under this heading Dr. Raphael of the Bellevue Hospital (*New York Med. Journal*, March 6, 1886), discusses the well-worn question of the treatment of syphilis. Premising that mercury is an antidote to the syphilitic poison, he assumes that the inunction method is the most potent and useful. He lays stress on three distinct points. First: The body must be prepared to absorb sufficient mercury if the inunction cure is decided upon, and a sufficient quantity of blue ointment must be used. Second: The body must be maintained in a good state of health during the treatment. Third: The inunctions must be continued for a sufficiently long period. Dr. Raphael recommends that warm baths should precede the inunction, and that the patient should rub in the prescribed amount of ointment (60 to 75 grains) just before going to bed, and follow it up by drinking a pint of hot milk in order to induce diaphoresis. In the morning he should wash the part where the salve was rubbed in with hot water and soap. Out-door exercise, fresh air, and well-ventilated rooms, are necessary adjuncts to the treatment; the diet should be good, and malt liquor or wine may generally be allowed. Tobacco should be forbidden. Astringent gargles are useful to check stomatitis. The inunctions should be prolonged for from eight to ten days after all symptoms have disappeared. One or two Turkish or Russian baths a week are very useful adjuvants.

6. The preventive treatment of syphilis.

Under this heading Mr. Chas. E. Jennings gives some details (*Lancet*, July 17, 1886) of a case in which an eruption on the loins, buttocks, etc., presumably due to scabies, was complicated by the appearance of a hard elevated nodule as large as half a pea on the dorsum of the penis, behind the corona in the median line. There was a history of impure coitus, and the lymphatic glands in both groins were slightly enlarged. Mr. Jennings considering the lesion to be a hard chancre, not yet arrived at maturity, destroyed it by means of the Paquelin cautery, after applying a solution of hydro-chlorate of cocain. Mercury was given for six weeks, and at the time of writing (six months afterwards) no secondary manifestations had appeared. Mr. Jennings claims that his treatment was "preventive" in character. It is, however, very doubtful whether the case was one of syphilis. As pointed out by several writers in the following number of the *Lancet*, the application of caustics even a few hours after inoculation does not prevent contamination of the system. It is probable that in the case in question, the hard elevated nodule was due to the irritation of scabies.

7. A combination of mercury with blood-serum for subcutaneous injection in cases of syphilis.

Endeavouring to find some preparation which, when absorbed, would affect the walls of the vessels as little as possible, Dr. Bockhart (*Viertelj. f. Derm. und Syph.*, 1886, Heft I., p. 141), has suggested a preparation of mercury with blood-serum. He states that this preparation is identical with that into which all mercurial compounds are converted previous to absorption. Forty ccm. of sterilised blood-serum are poured into a graduated glass, and the albumen is then precipitated by adding a solution of 3 grammes of sublimate in 30 of distilled water at a temperature of 50° C. The precipitate is then dissolved by adding a solution of 7 grammes of natrium chloride in 20 of distilled water. Water is then added until a 1½ per cent. solution is obtained, which is neutral, yellowish, and resists decomposition for a long time. With this solution Dr. Bockhart treated twenty-three cases of syphilis in various stages, making in all 305 injections, each containing .7 gramme (= $\frac{1}{100}$ of sublimate). There were no indications of local reaction, no induration, and no abscesses. Slight stomatitis was occasionally observed. Twenty-four hours after the first injection, and eleven weeks after the last, mercury could be detected in the urine. Dr. Bockhart compares the various preparations of mercury with regard to the length of time they remain in the system, and he states that traces of the metal can

be detected in the urine six months after inunction with blue ointment has been discontinued.

8. A combination of urea with perchloride of mercury as a new antisyphilitic remedy.

Many attempts have been made of late years to discover, for the purpose of subcutaneous injection, some mercurial compound which should contain some substance resulting from the disintegration of albumen. Dr. Schütz, of Bonn (*Viertelj. f. Derm. und Syph.*, 1886, Heft II., s. 313) has proposed a combination of the perchloride of mercury with urea. One gramme of the perchloride is dissolved in 100 ccm. of hot distilled water, and half a gramme of urea is added when cold. One gramme of this solution was used for each injection in treating twenty-six patients, of whom twenty-four were reported as cured, *i.e.*, the symptoms totally disappeared. The average duration of treatment was thirty-six days. Among those treated the prominent symptoms were, roseola, condylomata, mucous patches of the mouth and throat, papular and pustular eruptions, rupia syphilitica, iritis, psoriasis palmaris and plantaris. The injections are said to cause no pain and no diarrhœa. Stomatitis was, however, rather frequent. The mercury is rapidly excreted from the system, being discoverable in the urine passed within twenty-four hours of an injection. Relapses were reported in four cases, after an average interval of $7\frac{1}{2}$ weeks.

9. The treatment of syphilis by subcutaneous injections of mercury.

Mr. J. Astley Bloxam (*Lancet*, Aug. 21, 1886), reports that, during the last eighteen months, he has treated upwards of 1,500 cases of syphilis, at the Lock Hospital and elsewhere, by intramuscular injections of a solution of perchloride of mercury. The solution contains six grains to the ounce of distilled water, and should be made fresh for each *séance*. One-fourth of a grain is to be used for each injection, which should be made not oftener than once a week, and the course of treatment should extend over a year. The advantages claimed for this method are :—That a weekly attendance is alone necessary, as sufficient mercury is injected to last until the following week ; that there is absence of salivation and of gastric derangement, with ease and certainty of administration. It is best to inject the solution (20 drops) into the muscular mass of the gluteal region ; the pain is but slight, and abscess is not likely to follow provided that the patient keeps quiet for a little while after the injection. Mr. Bloxam refers to the researches of Messrs. Eve and Lingard as supporting the view of the bacillary origin of syphilis, and likewise as accounting for the specific

action of mercury in the treatment of the disease (See *Lancet* April 10, 1886). These observers state that in none of the cases from which cultivations were obtained had mercury been administered for any length of time.

10. Deep injections of yellow oxide of mercury in syphilis.

Professor Stukovenkoff, of Kieff, recommends yellow oxide of mercury injections in the condylomatous stage of syphilis (*Lancet*, Sept. 4, 1886). Sixteen grains of the oxide are rubbed up with twenty of gum arabic and an ounce of water. The injections are not made hypodermically into the subcutaneous tissue, but the needle, four or five centimètres in length, is plunged almost vertically into the gluteal muscles. From five to ten injections are generally required at intervals of a fortnight, a grain of the yellow oxide being introduced each time, by means of two punctures on opposite sides. Very little irritation is said to be produced, and the mercury is quickly detected in the urine. The same authority reports very favourably of the hypodermic injection of calomel suspended in mucilage, as recommended by Professor Scarenzio. (See "Year-Book of Treatment," 1885, page 191). A grain and a half are injected on each side, and this double injection is repeated at the end of two or three weeks. It is alleged that as regards effects, three to nine grains thus injected in from four to six weeks are equal to from thirty to forty inunctions of half a drachm of blue ointment.

11. Milk as a vehicle for iodide of potassium.

Dr. E. L. Keyes, of New York (*Annals of Surgery*, Oct., 1885), recommends milk as a most suitable vehicle in which to administer iodide of potassium, especially when large quantities of the drug are required. Ten grains or more of the iodide in a gill of milk is not disagreeable to the taste. In severe cases of syphilitic disease of the nervous system, in which food is unpalatable or cannot be taken, this combination of the iodide with milk fulfils the needs of nourishment as well as of medical treatment.

12. Belladonna in cases in which iodide of potassium is badly borne.

Dr. Aubert, of Lyons (*Viertelj. f. Derm. und Syph.*, Heft I., 1886), recommends small doses of belladonna as an adjunct to potassium iodide in cases in which the latter, even in small doses, produces catarrhal symptoms. A very small quantity of the extract with each dose is sufficient to prevent these symptoms from becoming troublesome, and after a time it may be omitted, its effects often remaining permanent.

13. Iodol as an application to venereal sores.

Dr. Mazzoni, of Rome, describes (*Berl. klin. Woch.*, 1885, No. 43) a new preparation, which he calls Iodol, as equally efficacious with iodoform in the treatment of venereal sores. It is a yellowish-brown crystalline powder, tasteless and almost odourless; it is insoluble in water; and is used either suspended in glycerine or made into an ointment with vaseline. It is soluble in alcohol, and this solution diluted with glycerine is another form of application. It has a very satisfactory action upon chancres and buboes. The ulcer should be cleansed with water and carefully dried, and then covered with powdered iodol and silk protective; in dealing with large sores, with much purulent discharge, a little wadding is required, the dressing to be renewed every twenty-four hours. After four or six applications, granulations appear in the floor of the ulcer and the edges begin to cicatrise. In the cases in which the iodol was tried, there was no appearance of fresh ulcers and no glandular enlargement. In six cases of open buboes, with exposure of glands, the results were very satisfactory. In dealing with suppurating buboes not already open, an incision was made with a tenotomy knife and the pus let out. Then from 2 to 6 grammes of the alcoholic solution of iodol were injected by means of a Pravaz syringe. This solution is made by dissolving one gramme of iodol in 16 grammes of alcohol and thirty-four grammes of glycerine. It must be kept in the dark. No directions are given for the preparation of iodol. It is said to constitute an excellent application for gangrenous and sloughing sores. Its action quite equals that of iodoform, and the absence of odour is an advantage as compared with the latter drug.

14. Resorcine as an application to pointed condylomata.

Dr. Boeck (*Monatsh. f. prakt. Dermat.*, 1886, No. 3) recommends resorcine as an application to pointed condylomata, for cases in which removal by the knife or scissors is impracticable. It may be used either as a lotion (4 to 6 per cent.) applied on lint daily for a week, or as a powder (8 parts resorcine to 1 of sugar, bismuth, or boric acid); this latter to be scattered over the growths, and kept in contact with them by means of cotton-wool and a bandage. Under this treatment small condylomata disappear completely in two or three days; the remedy has also a very satisfactory and rapid action upon larger growths.

15. The etiology and treatment of ulcerous mercurial stomatitis.

Dr. Bockhart (*Viertelj. f. Derm. und Syph.*, 1886, Heft I,

p. 142) states that ulcerous stomatitis occurring during a mercurial course is due, not to want of cleanliness, but to erosions of the epithelial layer of the mucous membrane, and to the action thereupon of the mercury contained in the saliva. Certain portions, *e.g.*, the mucous membrane of the cheeks opposite the edges of the teeth and the borders of the tongue, are especially liable to become eroded. By way of prophylaxis, Dr. Bockhart recommends the removal of carious teeth and of sharp angular portions. He has no faith in potassium chlorate as a remedy. He advises that several days before the mercurial course is begun, and also during the course, the inside of the mouth should be painted over with a solution composed as follows : acid tannic 5 to 10 parts, glycerine 20 parts, and distilled water 80 parts. Tincture of rhatany properly diluted may at the same time be used as a wash.

16. Lanoline as a basis for ointments.

Lanoline is the latest addition to our list of excipients. The fatty matter so named is prepared from sheeps' wool, and when purified, presents itself as a yellowish, viscous body of feeble odour and neutral reaction. It mixes perfectly with mercury, so that after half-an-hour's trituration, no globules of mercury can be seen with the lens. It is readily absorbed by the skin. Dr. Lassar (*Berl. klin. Woch.*, 1886, No. 5) speaks highly of this fat as a basis for ointments where deep penetration is required. In the inunction treatment of syphilis, the substitution of lanoline for other bases is an improvement, and the addition of 20 per cent. of lard is said to increase the penetrating power. It is further stated that lanoline does not irritate the skin, and its capacity for taking up water is claimed as another advantage.

17. The treatment of hereditary syphilis in infants at the breast.

Dr. Campana (*Viertelj. f. Derm. und Syph.*, 1886, Heft I., p. 143) recommends the following treatment in these cases: (a) The mother or nurse should be well fed and supported, and should take some preparation of iodine; (b) The child should have (1) subcutaneous injections of from 2 to 10 milligrammes of sublimate every second day; (2) daily warm baths; (3) sublimate baths (2 to 3 grammes in each bath) once or twice a week; (4) careful cleansing of the mucous membrane, especially of the mouth after sucking; (5) antiseptic local treatment. Dr. Campana recommends subcutaneous injections as introducing mercury into the system more rapidly than any other method.

18. A new treatment of chronic gonorrhœa by means of grooved bougies.

Dr. Leopold Casper, of Berlin, after adverting to and explaining

the difficulties of curing some cases of chronic gonorrhœa (*Lancet*, Feb. 6, 1886), and discussing the pathology of the disease, recommends the use of grooved bougies, with the view of combining mechanical with chemical treatment. He uses nickel-plated instruments grooved to within two inches of the point. The grooves are six in number, and a millimètre and a half deep; into them is poured a paste which hardens at the ordinary temperature, and is composed as follows: cacao butter 100 parts; nitrate of silver 1 to 1.5 parts; balsam of copaiba, 2 parts. This paste warmed and semi-fluid is to be poured over the bougie, and when it has become firm, the surplus is to be removed with a knife. Before using, the bougie is to be warmed by being drawn through the hand, and the anterior part is lubricated by glycerine. The bougie is allowed to remain in the urethra for from five minutes to half-an-hour, or even longer. Ten applications are usually sufficient to effect a cure. The method proved successful in fifty obstinate cases.

The above summary includes the principal papers on the treatment of syphilis which have appeared between October, 1885, and the publication of this Year-book. It will be seen that no new remedies have been introduced, but that active efforts have been made to demonstrate the efficacy of the hypodermic use of several mercurial preparations. There can be no doubt that many syphilitic manifestations rapidly subside when mercury is thus employed; but it may be confidently asserted that disappearance of the symptoms is not indicative of the cure of the disease, for which purpose a course of treatment extending over many months is really necessary. Indeed, it may be laid down as a general rule, that to cure syphilis the treatment should be continued for two years. Very few patients could be found who would submit to hypodermic injections for even a much shorter period than this, and the same remark applies to the inunction method, which becomes very irksome and disagreeable after a few weeks. On the other hand, with proper precautions, small doses of mercury may be given by the mouth for an almost indefinite period, and this I believe to be the best and altogether the most convenient method of administering the drug, an opinion based on many years' experience, and which I am glad to see is shared by Mr. J. Hutchinson. I am altogether sceptical as to the real use of treatment consisting of the hypodermic introduction of a few grains of calomel.

No important works on syphilis have been published in

England during the present year. Dr. P. H. Maclaren, of Edinburgh, is bringing out a valuable atlas of venereal diseases, while Mr. Jonathan Hutchinson is, it is understood, engaged on an important work on "Syphilis." Abroad, Dr. Louis Jullien's *Traité pratique des maladies vénériennes* has reached a second edition, and Dr. P. Diday has published a book entitled, *La pratique des maladies vénériennes*. On the subject of the treatment of syphilis, Dr. Diday may be best described as an opportunist; he denies that mercury has any preventive action on the appearance of symptoms, but he gives it for severe secondary manifestations. His rule is to act according to the supposed gravity of the symptoms, paying throughout great attention to all matters connected with hygiene. Advice of a like character is given by Professor Lang, of Innsbruck, in the concluding portion, just published, of his work "Vorlesungen über Pathologie und Therapie der Syphilis." He recommends excision of the primary induration, though his own experience of the operation has not been very favourable. He uses local treatment (mercurial ointment) for severe papular eruptions, ulcerations, fissures, etc., and only when these become obstinate, or when important organs are threatened, does he have recourse to general mercurial treatment. He prefers inunction, but admits its drawbacks. He reserves iodine for cachectic cases, as a rule, but gives the iodide in combination with mercury in syphilitic affections of the eyes and nervous system. It is worthy of note that he does not even allude to sulphur-waters. Bäumlér says that the real value of Aix-la-Chapelle is due to the excellence of the bathing arrangements and not to the composition of the water; and Zeissl states that the efficacy of the baths in question is neither greater nor less than that of any other hot baths.

THE DISEASES OF WOMEN.

BY D. BERRY HART, M.D., F.R.C.P.E.,

Lecturer on Midwifery and Gynecology, Surgeon's Hall, Edinburgh; Assistant Physician, Royal Maternity and Simpson Memorial Hospital; Assistant Gynecological Physician, Royal Infirmary, Edinburgh.

1. Malignant ovarian tumour clinically considered from analysis of one hundred cases treated in the Imperial University Clinique for diseases of women, Berlin.

Cohn (*Zeitschrift f. Geb. und Gynæk.*, Bd. xii., 1st half, p. 14) points out that malignancy in ovarian tumours is usually considered a bar to operative interference owing to the immediate unfavourable results, and the conviction that, even if recovery take place, recurrence is sure to be speedy.

Cases of early operation in such have, however, been followed by recovery and freedom from recurrence for years. Spencer Wells has had such results, though rarely. Thomas and Olshausen look unfavourably on operative treatment.

Cohn raises the question whether one should operate on malignant cases or allow the disease to run its course unchecked, and gives a full account of one hundred cases operated on by Schroeder, in eighty-six of which the operation could be completed. There were, therefore, fourteen exploratory incisions.

As a preliminary to the special consideration of these cases, Cohn sums up the question of the nature of the malignant tumours and their diagnosis as follows:—Malignant tumours may be divided into solid and cystic. Under the former are included sarcoma and pure carcinoma, and under the latter, cysts with carcinomatous degeneration, papillomatous tumours, and finally, those cystomata which may be termed combination cysts (glandular and dermoid with malignant infection.)

Of the one hundred tumours, ten were *sarcomata*, i.e., 10 per cent. of this series, or somewhat over 1 per cent. in six hundred

ovarian tumours operated on by Schroeder. They were usually solid, and sarcomatous tissue replaced all the ovarian tissue.

Pure carcinoma was a little more frequent than sarcoma, and was usually a diffuse infiltration; isolated nodules were rare. Growth was slow, and metastasis took place through the pedicle into the connective tissue. In the same way, *i.e.*, through the lymphatics, the retro-peritoneal glands and peritoneum become infected. Cancer of the ovary is usually double, and may occur at any age. The younger the patient, the more rapid its growth.

Carcinomatous degeneration of cystic tumour is more common than pure carcinoma, according to text-books; but in this series there were thirteen of the former to twelve of the latter, almost equal proportions.

Sarcomatous degeneration of cysts is rare, and, in the two cases noted, may have been cystic degeneration of sarcoma.

Papillomatous tumours are of great importance, because of their tendency to infect the peritoneum, when once the cyst wall is perforated. Their malignant tendency is undoubted.

Rapid growth, early ascites, and sensitiveness, are of importance in the diagnosis of malignancy (Schroeder). The existence of hard masses in Douglas's pouch points to carcinoma. Uncomplicated sarcoma may be confused with fibroma, but the latter is rare.

In sarcoma the menstruation is disturbed. The diagnosis is not easy, but we may give the characteristic points as being solidity of texture, smooth contour, and occasionally traces of peritonitis, to be associated with menstrual disturbances; cachexia fairly well marked.

Carcinoma usually affects both ovaries, according to Olshausen, but Cohn found his eleven cases single, and attaches most importance in diagnosis to the presence of secondary deposits in Douglas's pouch.

For the diagnosis of malignant degeneration of a cyst, we have sudden increase of growth, development of ascites, cachexia, and palpation of indurated nodules.

The diagnosis of papillomata is difficult until the peritoneum is affected when the secondary deposits are felt.

The researches of Foulis, Doran, and Coblenz, are here of importance.

The statistics of the eighty-six completed operations are of great interest, and are as follows:—

Sarcoma.—Ten cases. Deaths from operation, 30 per cent.; deaths from return, 20 per cent.

Of the cures, one had no return four years afterwards.

Carcinoma.—Eleven cases. Deaths from operation, 36 per cent. Deaths from return, twenty seven, 2 per cent. Three had no return a year or so later.

Kystoma proliferum glandulare carcinomatosum.—Deaths from operation, fourteen, 2 per cent. Deaths from return, 28 per cent.

Papillomata.—(a) Benignant. Deaths from operation, thirteen, 6 per cent. ; (b) Malignant. Deaths from operation, fourteen, 2 per cent. Deaths from return, twenty-eight, 6 per cent. In the one hundred cases the mortality from sepsis is 7 per cent., the other deaths being due to shock, collapse, or marasmus.

Of the entire one hundred cases, so far as known, 20 per cent. died from the operation ; 15 per cent. from return, and 19 per cent. were cured.

In suspicious cases early operation should, therefore, be had recourse to.

2. A case of so-called "pseudomyxoma peritonei."

Donat (*Arch. f. Gyn.*, Bd. xxvi., p. 478). Werth has described, under the term pseudomyxoma peritonei, an alteration in the peritoneum, sometimes found after burst cyst. On operation or *post mortem* one finds the abdominal cavity filled with gelatinous masses, and a thin layer over the peritoneum of the body wall and intestines. This alteration he believes to be a special condition, and gives it the above-mentioned term.

The case recorded by Donat was operated on by Sanger, of Leipzig, and is, as regards the operation, essentially as follows:—

After the usual incision in the middle line, the parietal peritoneum was found altered to a whitish hyaline membrane, which seemed at first like cyst wall. When the peritoneal cavity was opened, a number of jelly-like masses were evacuated, and the cyst exposed, free from adhesions, but covered with a thin layer of the same jelly-like material. This made the diagnosis of burst cyst and pseudomyxoma peritonei of Werth evident. Puncture of the cyst was ineffective, and, therefore, incisions with the knife and pressure through the abdominal wall was required to empty it of its sticky contents.

In the posterior wall of the cyst was found an opening, the size of two fingers, through which the cyst contents had escaped into the peritoneal cavity. There was no pedicle, and the lowest part of the cyst had developed between the layers of the broad ligament. To secure the cyst, an aneurysm needle, with a double silk thread, was passed through the base of the broad ligament, the ligatures interlocked, one tied in the neighbourhood of the angle of the uterus, the other at the infundibulo pelvic ligament.

The cyst was then cut away with the knife, and any remains of it cauterised. By means of sponges and the hands, numerous masses of the jelly-like substance were now removed from the peritoneal cavity, and found to be of a somewhat softer and looser consistence than that of the cyst. It had collected chiefly in the vesico-uterine pouch, Douglas' pouch, in the flanks, beneath the liver, and in the regions of the spleen and kidney. The parietal and visceral peritoneum, uterus, and annexa, were covered with a layer of the same jelly substance, 1 to 3 mm. thick, with fine, dark-red ecchymoses and delicate veins.

The cavity was now washed out with 5 litres of a 2 per cent. salt solution with salicylic acid ($\frac{1}{500}$) at 38° C. This removed many masses, and also caused a white precipitate over the intestines and parietal peritoneum. The peritoneal toilette was now completed, and the wound dressed with iodoform.

Some of the cyst substance found in the peritoneal cavity was placed, with antiseptic precautions, in the abdominal cavity of a dog. Five days after, the dog died, and microscopic examination of the membrane, lying on the peritoneum, showed it to be an abscess membrane. This was evidently a purulent peritonitis, differing from the pseudomyxoma.

The peritoneum in the patient operated upon was not examined microscopically; a piece reserved for this was unfortunately thrown away by a nurse.

The patient recovered. Severe sickness was ultimately checked by washing out the stomach. On the eleventh day, there was hæmorrhage from the vagina, and expulsion of masses, evidently necrosed vaginal tissue.

On examination, after recovery, a cicatrising wound, about the size of a mark, was found in the posterior fornix; there had evidently been thrombosis and necrosis there.

Donat considers the so-called pseudomyxoma peritonei as merely an aseptic peritoneal irritation, which, by-and-by, passes into inflammatory changes.

Cases like the present are usually fatal, but several recoveries have now been recorded.

Chemical examination of the effused cyst contents gave little trace of mucus, but abundant albumen. The question arises, therefore, as to whether or not the mucus had been absorbed.

3. Case of pseudomyxoma peritonei.

Dr. v. Swiecicki, Posen, (*Centralbl. f. Gyn.*, Bd. ix., 691) records a case, similar to Säger's, where the cyst had ruptured, and the colloid contents escaped into the peritoneal cavity.

The special points to be noted are, that a long abdominal

incision was made, and catgut used to tie the pedicle. The peritoneal toilette was done as carefully as possible. The length of the incision enabled the condition of the peritoneum to be seen. The intestines were covered with a thin layer of the colloid material, and the whole peritoneum had ecchymoses, and also the same colloid layer in many parts.

The rupture had taken place some days before the operation.

On the fourteenth day after the operation the patient was in a state of collapse, but ultimately recovered.

Another successful case, by Leopold, of Leipzig, is recorded by Dr. Korn, in the *Centralblatt* for Dec. 26, 1885.

4. One hundred and thirty-nine consecutive ovariectomies performed between January 1st, 1884, and December 31st, 1885, without a death.

Mr. Lawson Tait attributes his success to early operation, avoidance of tapping, to his using an average abdominal incision of about two inches, and to the intra-peritoneal treatment of the pedicle. Tait uses uniformly the Staffordshire knot, with silk.

He also practises washing out the peritoneal cavity, after the operation, with water at blood-heat. None of his success is, according to him, due to any means directed against germs. Far from that, he states, "if I could get them (*i.e.*, germs) in sufficiently large quantities, and found them dry, elastic, and absorbent, I would willingly stuff my pads with them instead of wool."

5. On extirpation of the entire uterus.

Dr. W. A. Duncan (*London Obstetrical Transactions*, vol. xxvii., p. 8) records with comments two cases where he removed the entire uterus *per vaginam* for cancer of the cervix.

During the operation the uterus was well drawn down, the posterior fornix incised so as to open into Douglas' pouch. The anterior fornix and vesico-uterine pouch were then cut into, and the lower parts of the broad ligaments separated carefully from the cervix, all bleeding points being ligatured with silk. The uterus was now retroverted by means of a pair of clamp forceps, and each broad ligament tied in three portions with strong carbolised silk, and divided. The right broad ligament was only tied after some difficulty. The raw surfaces of the broad ligaments were then brought into the vagina, dusted with iodoform, and two drainage tubes passed into the pouch of Douglas. Two long india-rubber tubes were attached to the distal ends and left there, so that irrigation might be employed, but it caused pain when attempted on the first day, and was therefore discontinued.

The patient made a good recovery; the silk ligatures came

away during the second and third weeks, and the patient was dismissed on the thirty-ninth day.

Six months afterwards the disease recurred, and she died in about four months, *i.e.*, ten months after the operation.

On *post mortem* the pelvis was filled with new growth, which had broken down and communicated with the vagina.

In the second case, the operation was difficult owing to friability of the diseased corpus uteri, and death took place twelve hours after.

Dr. Duncan discusses several points. He condemns the abdominal operation in common with all other gynæcologists. In regard to the vaginal method, he recommends ligature of the broad ligaments, that the wound be not stitched, and that no drainage tube or vaginal irrigation be employed.

He finally points out that amputation of the supravaginal portion of the cervix for cancerous cervix with lateral spread of the disease is safer than entire removal of the uterus, its mortality being four times less, and would reserve removal of the entire uterus only in cases where it affected the body or spread from the mucous membrane of the cervix into the cavity of the uterus. On this last point, however, he speaks cautiously.

In the discussion which followed, Dr. Duncan's conclusions were generally agreed to.

It may be fairly objected that the cases given by Duncan are too few for deduction.

6. On total extirpation of the uterus by the vaginal method.

Brennecke (*Zeitschr. f. Geb. und Gynaek.*, Bd. xii., p. 56) insists on the following points in this operation.

(1) *The vaginal roof and uterus must be conveniently accessible.*

Rigidity of the perinaeum or narrowness of the vagina renders the operation very difficult. These may be overcome, however, by incisions or the use of the tamponade.

The uterus must not be fixed, but should be movable enough so that it can be drawn well down into the vagina or to the vaginal entrance. Fixation of the uterus means spread of the disease into the connective tissue, and is a contra-indication to a radical operation. The great point is early diagnosis, so as to be able to operate before such fixation.

When fixation has occurred, the uterus may be removed as a palliative, and gives good results as compared with other means.

Brennecke recommends his forceps for making traction on the

uterus. This is described in the *Centralblatt für Gynaek.*, 1883, p. 76. The instruments usually employed for this (volsellæ, &c.) tear the degenerated tissue and hinder the operation.

(2) *A sure method of controlling hæmorrhage is imperative.*

Brennecke here recapitulates some elementary points in the anatomy of the uterus. These are as follows. The position of the uterus between rectum and bladder; the deep dip of the peritoneum behind the uterus, and on to the upper half-inch of the posterior vaginal wall, as compared with its relations in front of the uterus, where it passes to the bladder at the level of the os internum uteri; the loose parametric tissue between cervix and bladder, and the loose union of the peritoneum to the cervix uteri behind. The blood supply of the uterus is sketched, and he draws attention to the fact that the chief branch of the uterine artery may pass more below the level of the os internum than it normally does. The ureters are $1\frac{1}{2}$ cm. ($\frac{3}{8}$ ths of an inch) from the lateral fornices of the vagina.

The operation he performs as follows:—With a sickle-shaped knife he incises the vaginal roof in front of and behind the cervix. Laterally he makes only a shallow incision. The cervix uteri is now separated with the finger as far as the os internum in front, and the pouch of Douglas is, of course, soon opened behind.

The finger thus has separated the cervix anteriorly and posteriorly as well as at the sides, with the exception of the attachments of the vaginal fornix laterally. These last are now cut with scissors, and bleeding points ligatured. In this way the cervix is now free, and if the pouch of Douglas has not been already opened, it is penetrated with the finger, the uterus retroflexed with forceps, if necessary, and supra-pubic pressure, and the peritoneal fold of the vesico-uterine pouch scratched through from above, also with the finger.

The uterus is now attached only by the broad ligaments which are tied with elastic ligatures, and the uterus cut away on the uterine side of these. Care must be taken here to give the ligature sufficient bite.

(3) *The method of carrying out the operation must be such as to avoid with the greatest certainty wounding neighbouring organs.*

The great point is to avoid including the ureters, and this can be managed by traction downwards on the uterus. The bladder or rectum may be opened into, if the disease has spread to their walls, and the ureters run the same risk, if the paracervical tissue is much infiltrated with the disease.

(4) *The greatest possible guarantee for an aseptic and undisturbed convalescence.*

For several days before the operation the patient has the bowels thoroughly evacuated, and is fed solely on soups and animal food. No food is given on the day of the operation. An hour before the operation 25 drops of Tr. Opii are given. Warm baths are used for some days before, and any carcinomatous ulcerations are cleaned by chloride of zinc, corrosive sublimate, or carbolic acid injections. The pubis is shaved, and the external genitals thoroughly cleaned.

The operator and his assistants take all antiseptic precautions.

During the operation the patient is fixed in the lithotomy posture with Säger's apparatus, and irrigation with $\frac{3}{10}$ to $\frac{4}{10}$ per cent. of chloride of zinc used.

For ligature, carbolised or iodoformed silk is employed. After the operation the more or less inverted vaginal walls are replaced, and the raw surface of the broad ligaments brought down so as to lie in the lumen of the vagina. The broad ligaments are knotted to each other by the elastic ligatures and also by silk ligatures passed through the snared portions. This secures that the sloughing portions beyond the grip of the ligatures lie away from the peritoneal cavity, does not prevent secretion passing from the peritoneum, and yet prevents the prolapse of intestines.

The vagina is then swabbed with corrosive sublimate ($\frac{1}{1000}$), vaginal injection being avoided, so as not to risk the fluid passing into the peritoneal cavity. Iodoform is then powdered over the parts, the ligatures cut short so as not to project beyond the vaginal entrance, and a glycerine and iodoform tampon inserted. This is removed at the end of the first week, and then vaginal injections carefully used. The silk ligatures are removed at the end of the second week, and the elastic ligature on the seventeenth to twentieth day. In six or seven weeks a linear scar alone remains.

Brennecke employs no drainage tube, and begins vaginal irrigation late. A short account of each of the eighteen cases operated on by him is appended. The immediate mortality was *nil*. He also points out that, while the mortality as given by Hofmeier for supravaginal amputation, compared with total extirpation, is lower (12 per cent. against 26), return of disease occurred in 28 per cent. of the total extirpation for 41·5 per cent. of the partial.

7. Kolposhysterectomy for cancer.

Dr. Sara E. Post (*Intern. Jour. of Med. Sci.*, January, 1886) in an elaborate paper considers the question of the treatment of cancer of the uterus by excision from an historical and statistical point of view. The following are her conclusions:—

1. The results of kolposhysterectomy for cancer have progressively improved with increase of the number of operations.

2. In 341 collected cases the mortality has been 27 per cent. Of 223 cases treated with the open peritoneal wound the mortality reached 22 per cent.

3. Of ninety-seven cases, done previous to 1883, 20 per cent. were well at the end of eighteen months or two years.

8. The treatment of uterine fibro-myoma.

Mr. Thornton (*Lancet*, Oct. 30 and Nov. 6, 1886) points out the value of proper diet in certain cases of fibro-myoma. The patient should avoid stimulating diet, living chiefly on fish, white meat, egg, milk, and vegetables, with little or no alcohol. He advises that ergot be not given at the period, and that iron should be avoided. Ergot and nux vomica should be given between the periods.

Three operative cases are then narrated, illustrating the difficulty of diagnosis.

Case 1 was diagnosed as solid ovarian, but found on abdominal section to be pedunculated fibro-myomata. Hysterectomy was, therefore, performed, the pedicle being treated extraperitoneally with Koeberle's serre-nœud. The patient recovered.

Case 2 was supposed to be a cystic fibro-myoma, but proved to be a papillomatous ovarian tumour developing in the broad ligament with firm fibrous adhesions to the neighbouring organs. Death on the sixth day from putrefaction of the part of the cyst left between the cervix uteri and bladder, and perforation into the peritoneum.

There is difficulty, therefore, in diagnosing certain ovarian cysts from uterine tumours, fibro-cysts from ovarian cysts and pedunculated fibro-myomata from ovarian sarcomata. Those ovarian cysts, which develop into the connective tissue around the cervix, are apt to set up peritonitis, and interfere with the kidney action. In cases of tumours, likely to press on the ureters, Mr. Thornton advises exploratory section.

Mr. Thornton finally points out the cases suitable for removal of the uterine appendages and hysterectomy. In eighty-eight cases of fibro-myoma or fibro-cyst of the uterus, his mortality has been 15.9 per cent. (eleven deaths in the first half of the cases, and three in the second half).

9. Removal of a large fibroid polypus of the body of the uterus by abdominal section.

Nagel (Dr. A. Martin's private hospital, Berlin; *Centralblatt für Gynaek.*, July 31, 1886) points out that, while the removal of fibroid polypi *per vaginam* is easy when the pedicle is accessible,

the tumour small, and the cervix dilated, it is a matter of great difficulty and danger to remove such when large, owing to the difficulty of applying either the ecrasur or galvano-caustic wire, and the risk of including the uterine wall, when inverted in it. Two cases are given to illustrate these points.

Case 1. The patient was forty-nine years old, and was anæmic from hæmorrhage; the tumour reached up to the umbilicus, and was partly borne into and distending the vagina.

Enucleation *per vaginam* was extremely difficult, the vaginal and rectal walls sloughed, and the patient died on the third day.

Case 2. Patient aged fifty-five, and with tumour reaching as far as the umbilicus and dipping into the pelvis. The vagina was virginal, and the examining finger detected the part of the tumour in the vagina free and with fœtid purulent discharge.

After careful disinfection, abdominal section was performed, the intestines lifted out and placed in warm carbolised cloths. The uterus was drawn up, surrounded with sponges, and the posterior wall incised. The edges of the uterine incision were seized with forceps when bleeding required to be controlled, the tumour laid hold of with Museux forceps and enucleated. The mucous membrane was then curetted, the cavity thoroughly disinfected, the edges of the incision resected and stitched with silk sutures. On the fourteenth day the patient was well and out of bed.

Cases such as the above are best treated in this way. For a case similar to the first, *see* Emmet's "Gynecology," p. 597.

10. A lecture on inversion of the uterus, with ten cases successfully treated by the sigmoid reposer.

Dr. Aveling (*Brit. Med. Journ.*, 1886, p. 475), in his interesting lecture, gives an account of inversion of the uterus, its causation, diagnosis, and treatment. His own method of treatment is to use a cup to fit the inverted fundus; this is fixed to a rigid sigmoid handle, which has elastic bands fixed to its proximal end and passing to an abdominal belt. Continuous elastic pressure is kept up, the pressure necessarily acting in the axis of the pelvic brim. In ten cases, treated successfully by this method, the average time required for reduction was 42 hours (longest, 54½ hours; shortest, 9 hours). The pressure exerted should not be above 2½ pounds.

Some details require to be attended to. The cup should fit the fundus, and have a diameter slightly less; the tension of the bands must be equally distributed, and the bands passing in front must lie outside the latter, and be covered with cotton-wool. Morphia may be used if necessary. When reinversion has taken

place the uterus should be douched with iodine water at 120° Fahr.

11. Treatment of inversion of the uterus.

Krukenberg (*Centralblatt f. Gynaek.*, 1886, p. 17).—The patient, twenty-six years of age, was delivered of her second child on Nov. 22, 1884. Post-partum hæmorrhage was profuse, and, recurring on the third day, the midwife detected a tumour in the vagina, which was protruded on the fifth day during movement of the bowels. The medical man who then saw her returned the tumour to the vagina, and retained it there by a Zwancke's pessary. This was kept in for three months and then removed, so that the patient had to prevent the protrusion of the uterus during defæcation by manual pressure.

A year after her confinement she was admitted to the Bonn Klinik, and attempts made to reinvert the uterus.

The methods of Sims, Emmet, and Schroeder failed, as well as the prolonged use of a vaginal caoutchouc bag distended with water. The only result of the last was that the vagina was greatly dilated, the uterus softer, and the lower part of the cervical canal expanded. Ultimately the uterus was replaced under chloroform, as follows:—The operator, standing on the patient's right side, passed his right hand into the vagina and the thumb into the left half of the cervical canal, so that the upper cervical portion was grasped between the thumb and finger, the latter being in the lateral fornix. Aided by the pressure of the outer hand, the left uterine wall was gradually replaced by the thumb pressure, and reinversion brought about. The uterine cavity was then disinfected and plugged with iodoform gauze.

[There may have been partial replacement from the previous elastic pressure. The author evidently holds that the internal thumb pushed the left side of the uterus up, and the upper hand steadied and pushed down the right side.]

12. On certain mooted points in gynecology.

Dr. T. Addis Emmet (*Brit. Med. Journ.*, Nov. 13, 1886) here gives views of uterine pathology, which have important bearings on treatment. These views are based on clinical observation, but closely agree with those given by Freund in his articles on parametritis atrophicans (*v. p.* 201). We may summarise Emmet's views as follows:—

1. Flexions and versions of the uterus giving rise to symptoms depend on previous inflammations in the peritoneum and connective tissue.

2. In such cases, if a pessary give relief, it acts chiefly by remedying downward descent of the uterus.

3. Cervical and vaginal discharges are evidence, not of local changes in the uterus, but of obstructed circulation (venous) in the pelvic connective tissue.

Emmet condemns, therefore, the following methods of treatment:—

1. Treatment of versions and flexions in themselves.

2. Caustic applications to the cervical and uterine interior.

3. Division and dilatation of the cervical canal; in fact, all treatment based on the views of the Mechanical School. He recommends a recognition of the part played by cellulitis and peritonitis in the causation of uterine displacements, catarrhs, and dysmenorrhœa, and a treatment of these directed to the inflammatory lesions. This treatment is to consist chiefly of the hot douche and careful use of the glycerine plug.

13. Clinical lecture on laceration of the os and cervix uteri, and the operation of trachelorrhaphy.

Hewitt (*Brit. Med. Journ.*, 1886) gives here brief notes of eleven cases where he performed trachelorrhaphy (Emmet's operation) for lacerated cervix. Of his cases, eight were cured; in two, partial union was obtained; and in one, an attack of cellulitis prevented a good result.

The indications for this operation he considers to be laceration, causing chronic eversion of the lining of the cervical canal, local or reflex pain, and the occasionally associated condition of uterine displacement and frequent abortion.

When the laceration is marked, but with no special symptoms, one may operate to prevent cancer or to avoid the ultimate development of the other severe changes or symptoms mentioned above.

Dr. Hewitt agrees with Emmet in recommending strong needles for the operation, silver wire (No. 6), as well as careful preparatory treatment.

14. Calculi removed from cysts of the vulvo-vaginal glands.

A. V. Scott and R. P. Harris (*Amer. Journ. of Med. Science*, Oct., 1885). The case was that of a mulatto woman, aged forty-nine, who had recurrent attacks of purulent inflammation in the Bartholinian glands. After some years' trouble with them, she consulted Dr. Scott, who, directed by the patient, found two hard lumps, one on each side of the vagina, about two inches from its entrance. Incision over these two sites revealed small calculi, one $\frac{3}{16}$ of an inch, the other $\frac{1}{8}$ of an inch in diameter. Troublesome fistulæ have since remained.

[The calculi were found higher than one would expect, although

Schroeder, as the authors point out, asserts that exceptionally the glands may extend as high as this, or higher.]

15. A case of chronic abscess of the female urethra.

Dr. Herman (*Lond. Obstet. Trans.*, vol. xxviii.) relates an interesting case of a rare affection.

For three or four years the patient, aged forty-seven, had pain on micturition, and, for twelve months, severe pain on coitus. On physical examination, a swelling was felt over the lower part of the anterior vaginal wall, and there was retention of urine, requiring the catheter. The second time this was used, pus escaped, and ultimately, under chloroform, the urethra was dilated with Hegar's dilators, and, with the finger, a communication with the vaginal swelling, about the size of a pea, made out. The finger could be passed into this swelling, and its rough interior felt. The cavity was rubbed over with solid nitrate of silver, and cure resulted in about three weeks.

Dr. Herman relates briefly the few cases already recorded, considers that it was probably local suppuration following the long-standing urethral congestion, and that urethrocele cases may thus arise when treatment is neglected.

[I had recently a case similar to Herman's. The abscess burst into the urethra while the urethral sound was being passed. It was ultimately opened from the vagina and drained. The patient recovered soon, and I formed the impression then that urethrocele would have arisen had treatment been neglected.]

16. Cocaine as an anæsthetic in dilatation of the female urethra, according to Simon's method.

Koppe (*Centralbl. f. Gyn.*, Oct. 31, 1885) records a case where he dilated the urethra, by Simon's method, to ascertain the nature of a vesical tumour, using cocaine locally as an anæsthetic.

The patient was an anæmic nervous patient, whose strength had been reduced by unfavourable recoveries after labour, and who complained of indefinite pain in the pelvis, and severe vesical irritation.

On bimanual palpation, a tumour was felt, about the size of a medium-sized apple, rounded in shape, and soft in consistence. To determine its nature more exactly, it was determined to dilate the urethra according to Simon's method, and, in view of the patient's weak condition, to use cocaine locally. The patient was placed in the lithotomy posture, and a Playfair sound, covered with absorbent cotton-wool dipped in a 20 per cent. solution of cocaine, passed into the urethra. To the anterior vaginal wall, in its lower half, and to the parts at the urethral orifice, cocaine was similarly applied, the duration of the application being

about twenty minutes; fresh solution was put on every five minutes.

Two lateral incisions, each $\frac{1}{20}$ of an inch, were made with scissors, at the upper edge of the urethra, and one $\frac{1}{10}$ of an inch long, through the urethro-vaginal septum. These caused no suffering.

Hegar's uterine dilators, Nos. 10 to 20, were then passed. After No. 18, which has a circumference of $2\frac{1}{5}$ inches, the index finger was passed, and the tumour (probably adenoma) felt.

Koppe recommends cocaine locally as a substitute for general anæsthesia in such cases.

17. On ulcers of the bladder.

Schatz (*Archiv f. Gyn.*, 1886, p. 53) points out, that while the tumours of the bladder have been investigated carefully by Thompson and Küster, ulcers of the same organ have received little attention. He relates several interesting cases of ulceration in the female bladder, the dilatibility of the urethra allowing, in women, accurate determination of such.

Ulceration may arise from pressure or unclean catheterism, or from stagnation of urine in the cystocele of old women.

Three cases of gangrene and exfoliation of the mucous membrane are narrated, in two of them death resulting.

Two specially interesting cases of ulcer are given, as follows:—

Case 1. Patient, aged fifty-two, had bladder catarrh, following a chill. She had to make water almost every hour during the day, and six or seven times during the night. The urine contained blood and pus. Injections of nitrate of silver (1 per cent.) did no good, and, therefore, the bladder was examined digitally. The whole anterior wall was found thickened, indurated, and smooth. Repeated injections of nitrate of silver and sublimate improved the bladder irritability, so that she was able to keep water for two hours. Her condition was only bearable during the continuance of the injections.

Case 2. Patient, thirty-five years of age, had very frequent micturition, which was suspected as gonorrhœal at first, and treated, without effect, by silver injections. Digital examination of the bladder revealed an ulcer, two inches in diameter, with thickened muscular base, and smooth surface. Three months' treatment was without result, and, therefore, resection of the bladder was determined on, the more especially as the ulceration was now thrice as large as before. This was carried out as follows:—An incision, $2\frac{2}{5}$ inches long, was made in the middle line immediately above the symphysis. Distention of the bladder had lifted up the peritoneum; therefore the bladder was now

opened, a sound passed in acting as a guide, hooked up with the finger, and the incision enlarged. The ulcer was now seen lying on the posterior bladder wall, reddish-blue in colour, somewhat elevated, and about the size of the palm of the hand. It was raised so as form a sagittal fold, clamped with forceps, and the base transfixed with silk sutures. The fold so raised was so thick, owing to muscular hypertrophy, as at first to give the impression that some structure lying behind was included in it. Bleeding from the wall was so great that a second row of sutures was required. The suture line was about four inches long. The wound in the anterior bladder wall was stitched with chromic acid catgut, but an aperture was left as a drain, and the silk sutures of the resected portion brought through it. The drainage tube also passed through this, into the bladder, and out through the urethra. The sutures in the bladder wall came away on the twentieth day. The abdomino-vesical fistula healed completely in three months.

There was no mucous membrane on the excised portion; and in the muscular coat tubercles were found, but no bacilli, probably owing to the preparation lying in weak alcohol during the first day.

Schatz finds no case like this, but quotes several approaching it. Winckel found bladder tuberculosis four times in 2505 female cadavera. Urinary tuberculosis often remains local for years, and such operations are, therefore, permissible. He recommends the removal of the muscular coat in such, as well as in polypoid cases.

The operation may be compared with suprapubic lithotomy, where Garcia found, in ninety-four cases, a mortality of 24 per cent.

18. An aseptic catheter for washing out the bladder.

Dr. Foulis (*British Med. Journal*, 1886, p. 196) points out the risk of septic infection of the urine when the catheter is passed in the ordinary manner, and the serious consequences which may arise from this. He describes a simple douche arrangement attached to the catheter, by which the catheter, prior to its being passed, can be filled with an antiseptic lotion, and the bladder also washed out after the urine is drawn off. Air is never admitted with the catheter by this simple contrivance.

19. Two chief forms of chronic inflammation—parametritis chronica circumscripta et diffusa.

W. A. Freund (*Gynæk. Klinik, Strasburg*, 1885), in an able paper on the connective tissue of the female pelvis, describes two forms

of chronic parametritis under the term of chronic atrophic parametritis, circumscribed or diffused. They are not to be confounded with inflammatory thickenings, remaining after acute parametritis; these are best termed chronic parametritis.

The two forms of atrophic parametritis affect the fascial and aponeurotic thickenings of the fatless connective tissue, as also the special pelvic fascia itself. They have no acute stage, and bear many analogies to the well-known cirrhotic affections of the kidney, liver, spleen, and lungs.

PARAMETRITIS CHRONICA ATROPHICANS CIRCUMSCRIPTA.

The primary cause lies in the *bladder*, *uterus*, or *rectum*. In the *bladder* we may have ulcerations from the pressure of long labour or unclean catheterism. The bladder changes can be made out by digital exploration through the vagina, by examination of the urine, or by the exploration of the bladder interior by means of the sound.

As the result of the bladder irritation, the connective tissue in its neighbourhood (paracystic tissue) becomes thickened and cicatrised (paracystitis), so that we get a uterine displacement in the direction opposite to the paracystitis. Thus in left paracystitis we get retrodextroversio uteri.

In the *rectum* we have dysenteric or catarrhal follicular ulceration usually above the anterior segment of the sphincter tertius, i.e., $2\frac{1}{2}$ inches from the upper margin of the anus.

The thickening and retraction of the connective tissue affects chiefly the utero-sacral ligaments, and thus we get a displacement of the uterus known as pathological ante flexion.

As a further result of this parametritis we get compression of veins, and, therefore, cervical catarrh and piles.

In the *uterus* we have cervical lacerations, and chronic cervical inflammations as a starting point. The inflammatory thickening runs chiefly along the base of the broad ligament, and thus we get the triangular shape of the parametric tissue proper, as seen in transverse section, greatly altered.

There are also changes in the veins here, periphlebitis and organised thrombi.

Two interesting cases, where the patients died from intercurrent disease, are given, where post-mortem examinations were made. In both cases, the heart, large arteries, and kidneys, were hypoplastic; both ovaries had small cysts, and periovaritis was present. There were some old peritonitic adhesions in Douglas' pouch, and, finally, follicular ulcerations in the rectum above the

sphincter tertius, chronic paraproctitis, and shortening of the utero-sacral ligaments. (The connective tissue near the rectum is termed paraproctal.) Both patients during life suffered from dysmenorrhœa.

For the diagnosis of this condition the bi-manual examination is imperative. One notices first the localised thickening associated with the uterine displacement. The cause of this thickening, whether in the cervix, bladder, or rectum, must be determined.

Peritonitic adhesions are higher up and displace the body of the uterus, and do not affect the cervix.

In treatment it is evident that the initial lesion of the bladder, rectum, or cervix uteri, must first be taken up.

For the local thickenings, Freund recommends, among other things, the hot vaginal douche, the use of tampons of glycerine and iodoform, and the employment of massage. Section of the thickenings in the lateral fornices vaginæ has not given any special result, and is dangerous either from bleeding or injury to the ureter.

[This portion of the paper is important as directing attention to the fact long insisted on by Emmet, Schultze, and others, that many uterine displacements are secondary to chronic inflammation of the connective tissue. The dependance of cervical catarrh on venous disturbance higher up in the pelvis is also noteworthy.]

PARAMETRITIS CHRONICA ATROPHICANS DIFFUSA.

Freund describes this as a diffused atrophic inflammatory process affecting ultimately all the connective tissue of the pelvis, spreading up into the abdominal cavity, and causing catarrhs of the organs and atrophic changes. On microscopical examination perineuritis of the sympathetic plexuses in the connective tissue was found.

In the etiology of this affection, Freund considers that overstimulation of the sexual organs and too frequent childbearing are the most frequent.

For diagnosis, one must rely on the history, the atrophic and withered conditions of the organ, associated with menorrhagia and chronic catarrhs most marked in the earlier stages.

Freund further considers that by pressure on the sympathetic filaments this condition sets up reflex neuroses, which he divides into *spinal*, *cerebral*, and *sympathetic* hysteria.

Under the *spinal* are classed pains in the region of the vertebral spinous processes, and in the intercostal nerves; under the *cerebral*, the various cerebral neuralgias, and under the

sympathetic, the various painful or aching conditions of the stomach, kidney, bladder and bowel.

For the treatment of these neurotic conditions, Freund recommends nerve stimulants, hot and cold applications for vaso-motor disturbances, and also for the hysteria; moral treatment, and the method of Weir-Mitchell and Playfair. During an hysterical attack nothing should be done. Freund believes that this treatment explains the absence of severe cases (from the *Strassburg Klinik*) such as Charcot has.

Freund does not believe in the ovarian origin of hysteria, but holds that changes in parametritis atrophicans are a certain cause, but of course not the only one.

The practice, frequent in this country, of regarding uterine displacements as primary, is very erroneous. Uterine displacements are usually secondary to inflammatory attacks; the latter constitutes the disease, and the displacement is seldom of importance.

20. Pelvic hæmatocele.

Mr. Lawson Tait (*Lancet*, Oct. 30, 1886) emphasises the division of pelvic hæmatocele into *extra-peritoneal* and *intra-peritoneal*: in the former the hæmorrhage is into the connective tissue, in the latter the blood pours into the peritoneal cavity. Extra-peritoneal hæmatocele is not fatal unless rupture of the blood through the enclosing peritoneum takes place, while intra-peritoneal hæmatocele is always fatal, according to Mr. Tait, unless abdominal section is performed. Extra-peritoneal hæmatocele is dangerous, however, if it is due to rupture of an extra-uterine pregnancy, or if suppuration occurs. In this last instance Tait has advocated and performed abdominal sections and drained the abscess cavity.

Intra-peritoneal hæmatocele is caused by hæmorrhage from the structures connected with the broad ligament, most often from a ruptured fallopian tube gestation, and requires abdominal section and ligation of the bleeding part to save the patient's life.

The following are illustrative cases:—

Case 1.—Cystoma of left ovary: long pedicle and easy operation. Metrostaxis came on in twenty-four hours, and lasted for twelve hours; then extra-peritoneal hæmatocele developed in left broad ligament. This was tapped per vaginam, as it was blocking the rectum, but again refilled; abdominal section was, therefore, performed, the cavity of the distended broad ligament opened, washed out with vinegar and water, and its edges stitched to the abdominal wound. Drainage of the blood cavity was employed, and recovery took place.

Mr. Tait believes that this form of hæmatocele often occurs after operations, and seldom needs interference.

Case 2.—Ruptured fallopian tube pregnancy: death in a few hours. Large intra-peritoneal hæmatocele found on *post-mortem*.

Case 3.—Seen with Mr. Hallwright, who diagnosed intra-peritoneal hæmatocele from ruptured fallopian tube pregnancy. Mr. Tait refused operation of abdominal section suggested by Mr. Hallright, and patient died. *Post-mortem* confirmed diagnosis.

Between 1883 and 1886 Mr. Tait has performed abdominal section for ruptured fallopian tube gestation twenty-five times with one death. He concludes, therefore, "that in the great majority of cases of extra-peritoneal hæmatocele the disease may be left alone being rarely fatal, and that it is to be interfered with only when suppuration has occurred. That, on the contrary, intra-peritoneal hæmatocele is fatal with such almost uniform certainty that so soon as it is suspected the abdomen must be opened and the hæmorrhage arrested."

Imlach (*Brit. Med. Journal*, Feb. 20, 1886) advises laparotomy and removal of tubes and ovaries in pelvic hæmatocele where the hæmorrhage is from the tubes. In fifteen cases he found that in general the tubes were greatly distended with black blood, and the pavilion grasping a blood clot evidently discharged from an ovarian hæmatocyst. In such cases he performs abdominal section, sponges out blood, and removes the uterine appendages, not using the Staffordshire knot.

[It is to be regretted that Dr. Imlach does not give details of his cases. Some of his statements are open to doubt. Thus he says:—"Women may have their peritoneal cavities half full of blood for years without becoming encysted." Again, "No case ought to be admitted as a tubal pregnancy unless the fœtus be found."

One of his patients died of a hearty laugh, or, as Dr. Imlach puts it, "Cardiac failure consequent upon her titanic laughter."]

21. Case of successful abdominal section for ruptured fallopian tube gestation.

D. Berry Hart (*Brit. Med. Journal*, Dec. 4, 1886). In this paper Dr. Hart chronicles a case of tubal gestation, in which, after rupture of the sac had taken place, he opened the abdomen and removed the fœtus, with the result that the patient recovered completely, and was able to leave the hospital six weeks after the performance of the operation.

On her admission to the Royal Infirmary a tubal pregnancy on the left side of the uterus was diagnosed. At this time the patient refused to permit any operation, but eight days later,

when she suddenly became collapsed and almost pulseless, and when rupture of the sac was diagnosed, she readily gave her sanction to abdominal section. The patient was chloroformed, a two-inch incision made in the abdomen, and the congested omentum pushed upwards, when the pelvis was found filled with blood, the left fallopian tube ruptured on its posterior aspect, and a six weeks' fœtus lying amidst the coils of small intestines. The ruptured tube was ligatured, the pelvis sponged out with water at 100° F., and then a stream of water at 120° F. was poured in, the peritoneal surfaces were thoroughly cleansed, and hæmorrhage was arrested. The recovery of the patient was uninterrupted. Dr. Hart then considers the question of the expectant method of treating extra-uterine gestation, as compared with the operative method, by opening the abdomen, and declares very strongly in favour of the latter.

Dr. Hart has appended to his paper a list of the cases of ruptured fallopian tube gestation which have been recorded in the London Obstetrical Society's Transactions, and from an analysis of these finds much in support of the recommendation that active interference by abdominal section should be the method employed in such instances. Thus there have been twenty cases of ruptured fallopian tube gestation shown at the London Obstetrical Society since its foundation. The patients had lived after the rupture for periods varying from eight to twenty-four hours, and some even for days. In most of the cases shown the condition was such that ligature of the tube would have been easy. The mortality in this operation has been about one in twenty-six.

22. A case of hydatid (echinococcus) in the abdominal cavity.

Dohrn (*Centralblatt für Gynaek.*, 1886, p. 115). The patient had noticed a tumour in the abdomen for five months, had felt weak, and complained of abdominal pains. On examination, multiple tumours of various sizes were found in the abdominal cavity. The largest was about the size of a child's head, and lay at the level of the umbilicus. The intestines were displaced to the right; there was no hydatid fremitus, and no pain on pressure.

On internal examination, a tumour, the size of an apple, was felt in Douglas' pouch; the uterus was displaced to the front and not enlarged.

Diagnosis.—Sub-peritoneal fibro-myomata attached to the uterus by a thin pedicle.

On abdominal section, echinococci sacs were found and removed. About a dozen were attached to the omentum, one to the fundus

uteri, one near the ovarian fimbria, and one in Douglas' pouch. They were all removed, either by shelling out or ligature. Two of the sacs burst into the abdominal cavity, but were removed. Recovery was uninterrupted.

23. Gonorrhœal infection in women.

Schwarz (*Die gonorrhœische Infektion beim Weibe. Volkmann's Sammlung*, No. 279) first points out the difficulties in diagnosing gonorrhœal affections in women as compared with men. This is the result of the frequency in women of catarrhal affections from other causes, and the indifference many of them have for such discharges, as well as the less acute nature of the early stages owing to the non-implication, as a rule, of much of the urinary tract.

The ultimate and serious results of gonorrhœa in women in bringing about inflammatory conditions of the peritoneum, tubes and ovaries, have only within recent years been sufficiently recognised. Exact and reliable statistics on the frequency of gonorrhœa as a cause for these inflammatory lesions are not accurately known and are difficult to obtain.

As early as 1872 Noeggerath asserted that latent gonorrhœa in men affected the wives of such, and was a great cause of inflammatory disturbances bringing about sterility. Noeggerath alleged that in 1000 married men in New York, 800 had gonorrhœa; that 90 per cent. remained uncured and infected their wives.

This paper was received by many with incredulity, but is now generally accepted as true.

By latent gonorrhœa is understood a condition where the usual symptoms fail, unless after venereal or vinous excesses when they appear in mild and transient form, and can infect those exposed to the contact of the secretion.

This evidently looks like a condition where a latent pathogenic micro-organism flourishes when introduced to a congenial soil.

Noeggerath's statistics are probably exaggerated, but Snger found one-ninth of his cases gonorrhœal. Oppenheimer found the gonococcus in 27.7 per cent. of pregnancy cases in Heidelberg, while Lomer found them in pus cells in 28 per cent., and in infective colonies in 56 per cent.

The frequency of gonorrhœal ophthalmia in children is well-known (15—25 per cent.), as well as the perfect results in stamping it out by the use of prophylactic measures (Crede's 10 per cent. solution of nitrate of silver dropped into the eyes of all newly-born children). Schwarz found in 617 cases (since end of April, 1885) 112 where the history of symptoms pointed to

gonorrhœal infection. Of these 112, thirty-three (5·3 per cent.) had acute gonorrhœa, as shown by presence of gonococci. In the remaining seventy-nine, colonies of gonococci were found in forty-four; but sometimes only before and after menstruation or after three or four trials in the remaining thirty-five cases. They were thus obtained in seventy-seven cases, *i.e.*, 12·4 per cent. in the 617 cases.

Of the thirty-five cases (*i.e.*, 112 - 77), many had perimetric affections with fixation, and dislocation of the uterus and ovaries, purulent endometritis, hydrosalpinx—while two had pyosalpinx. Of the 112, thirty-one were sterile, and many had only once conceived.

It is evident, therefore, that while gonorrhœa may trouble the male with bladder and kidney troubles as well as with stricture and so on, its real danger lies in the infection of the wife, owing to the secondary affection of the tubes, ovaries, and peritoneum. Those women thus infected have during their lives a chronic struggle with disease, are sterile, or liable to abortion. By no means a small percentage die from pelvic or kidney affections. The rôle of gonorrhœa in producing serious disease is thus evident, especially when we add to it infantile ophthalmic cases.

The etiology is of importance, and the following statement by Schwarz is of value:—

“Gonorrhœa is the single infective catarrh of the female sexual organs. All other secretions and discharges never cause gonorrhœa in man, whether such discharges are cancerous, leucorrhœic, from foul pessaries, urinary fistulæ, or from the desquamative vaginitis of pregnant, chlorotic, or scrofulous women.

“The carriers of the contagion, or rather, the contagion itself, are the gonococci discovered by Neisser. They are found on every gonorrhœal mucous membrane.

“A secretion in which they are present is capable of conveying infection; a secretion in which they are absent is not so.

“Without gonococci there is no gonorrhœa. All manifestations of the same are associated with its presence and activity. They are the pathognomonic mark of gonorrhœa.

“The virulence of the gonorrhœal secretion runs parallel with the number and vitality of the gonococci. The more abundant and active the gonococci, the easier the infection and the more virulent the disease.”

When by no means abundant, and in the deeper connective tissue layers, they may become more active in menstruation, pregnancy, abortion, the lying-in period, &c.

Pure cultures of this micro-organism have been obtained, and

gonorrhœa produced by their inoculation into the urethra (Bockhart, Bumm).

Neisser described the gonococci as relatively large oval micrococci, usually in pairs (diplococci), bean-shaped and flattened on one side. They form heaps, not chains, are found in the free fluid, or more frequently in pus cells.

They are seen also in the nuclei of the white blood corpuscles, but never in those of epithelial cells. These micro-organisms pass into the connective tissue spaces, lymphatics, and blood-vessels of the mucosa, increase rapidly, and cause thrombosis. The white blood corpuscles leave the vessels, advance, as it were, against the micro-organisms, capture them in their protoplasm, and carry them to the surface. They increase in the cell, destroy it, and thus form a colony.

The *symptoms* of an acute gonorrhœa in women may be as intense as they are usually in men, or may be slight. When intense, we have swelling of the pudenda, some urethritis, often swollen Bartholinian glands, with redness of the vagina and cervix.

In bad cases we may get severe cystitis, acute nephritis, or fatal pelvic peritonitis from extension through the fallopian tubes.

The *symptoms* induced in a married woman by a chronic gonorrhœa acquired, *e.g.*, by her husband some time before marriage, are much less intense; but we have reddening of the vestibule, vagina normal; when the disease spreads, we get cervical catarrh and minor peritonic and cellutic effusions. Schwarz considers the stooping forward of such patients while walking as characteristic. He explains the condition in the chronic cases by supposing the energy of the gonococci to be diminished.

In regard to the *diagnosis*, he points out the importance and significance of urethritis, inflammatory affections of the Bartholinian glands, especially of their ducts, the presence of warts, and of purulent endocervicitis, and endometritis.

The existence of long standing peritonitis, adhesion, and fixation of the uterus and ovaries, tube affections are highly suggestive of gonorrhœa, unless direct evidence of some other cause is present. The detection of Neisser's gonococci is a certain diagnostic. The difficulty here is that the presence of other micro-organisms complicates matters. Schwarz recommends previous irrigation of the affected parts, so that the pathogenic micrococcus may pass up from the deeper layers.

Methyl violet he finds the best stain. He recommends mixing the pus containing gonococci with 10 to 15 c.cm. of distilled

water ; after agitation of this, he alleges that the gonococci, being heavier, fall to the bottom, and can be removed by a pipette.

In prophylaxis, Schwarz asserts that men or prostitutes with chronic gonorrhœa are not to be considered cured so long as gonococci are detected in the discharges. In such men it is occasionally useful to set up increased discharge by irritating injections, so as to determine more easily if gonococci are present. (Provocative measures.)

Stringent treatment should be adopted for the cure of gonorrhœa in prostitutes.

Treatment.—Internally, copaiba, in large doses, is good when the urinary tract is involved. As is well known, copaiba has no specific action on the gonococci until it has passed through the system. When the bladder is involved, Schwarz has not found specially good results from bladder injections, and thinks they may possibly set up kidney mischief. Nitrate of silver injection (1 to 2 per cent.) may be used at intervals of two to four days.

When the bladder mischief is chronic it affects chiefly the neck or trigone. The affected portions can usually be made out by means of bimanual examination and with the help of a bladder sound.

Dilatation of the urethra with Simon's dilators and the use of reflected light may show small ulcers with purulent surface, red eroded edges, and occasional incrustation with urinary salts. In one case the ulcer was the size of a mark, and so hard and painful as to raise the suspicion of cancer.

Schwarz recommends dilatation of the urethra and curetting, for these ulcers, and the application of caustic. In mild cases the urethra may be dilated, and nitrate of silver, in solution (10 to 15 per cent.), applied by means of cotton-wool and probe.

Iodoform (50 per cent.) and calomel ointment are also good.

When the vagina and vulva are affected alone, a radical cure can be obtained as follows:—The patient is anæsthetised (if necessary), and the vulva and vagina thoroughly cleansed with $\frac{1}{1000}$ solution of corrosive sublimate, and then a one per cent. solution of the same is carefully rubbed in by cotton-wool tampons for some minutes, so as to remove the superficial epithelium and gynecocci. Bozeman's speculum is helpful in this proceeding. Special care is taken with the rugous vaginal entrance.

Iodoform is dusted over and rubbed into the surfaces, and the vagina plugged with iodoform gauze. This is left for three or four days, and the whole process again repeated. In four or five days the gauze is removed, and for about fourteen days the vagina douched with corrosive sublimate $\frac{1}{5000}$ twice daily.

Persistent urethritis or Bartholinitis can be treated with iodoform; for vulvitis, fomentation of corrosive sublimate $\frac{1}{1000}$ can be employed.

In this way Schwarz claims that vulvo-vaginal gonorrhœa can be cured; he has never seen sublimate poisoning result.

Such treatment is more difficult when the uterus has become affected, and, of course, impossible when the tubes are involved. When the uterus is implicated, Schwarz recommends permanent irrigation for not less than two and not more than four days, with $\frac{1}{5000}$ sublimate lotion or 1 to 2 per cent. carbolic lotion. For this he recommends a modified Bozeman's uterine catheter.

For tube affections, he mentions removal by abdominal section, adding: "These operations are much more dangerous than ordinary ovariectomies . . . in case of success, the patients occasionally will not be cured, as the diseased uterus and pelvic peritoneum are untouched."

He has found good results by opening dilated tubes from the vagina. [There is no doubt that the discovery of Neisser's gonococcus, as the cause of gonorrhœa, has made its many manifestations understandable and given a scientific basis for its pathology and treatment.

Schwarz's remarks on removal of diseased appendages do not coincide with British statements. Sânger has also not had brilliant results (*See "Year-Book of Treatment" for 1885, p. 201.*)]

24. Gonorrhœa in the female.

Dr. Currier (*New York Med. Journ.*, 1885, pp. 426 and 455), in the great part of his paper, discusses the natural sites and extension of gonorrhœa in the female. He strongly recommends the daily use of tampons of bismuth and glycerine (one drachm of the sub-nitrate to one ounce of glycerine).

25. The treatment of gonorrhœa in the female.

Dr. Grandin (*New York Medical Journal*, 1886, p. 186) recommends, in acute gonorrhœa in the female, the free use of nitrate of silver, as follows:—He passes a large tubular speculum, wipes the cervical canal and vagina, and first applies the silver solution (3ss. to ʒj.), by means of cotton-wool, to the cervical canal. He then passes ʒj. of the solution into the vagina, withdrawing the speculum with a rotary movement. The vestibule is also brushed over, and the urethra also touched with it (gr. x. to ʒj.). If Skene's ducts are implicated, they are slit open, and cauterised with solid nitrate of silver. Finally, the vulva, and parts around, are painted with the solution (gr. x. to ʒj.). This, according to Grandin, does not require repetition, and modifies the gonorrhœa remarkably.

26. Cardiac neuroses in connection with ovarian and uterine disease.

Boldt (*Amer. Journ. of Obstet.*, Aug., 1886) draws attention to functional disorders of the heart, due to reflex irritation, starting from the uterus or ovaries. Palpitation, irregularity or intermittency of the heart, may arise as the result of some uterine or ovarian disease. Displacement of the uterus, endometritis, sensitiveness of the os internum, displacements of the ovaries, may be the starting-points for these reflex disturbances. Boldt recommends local and general treatment in such cases, viz., correcting the uterine or ovarian displacement by pessaries or tampons, galvanism to the sensitive os internum, and so on, through the usual run of treatment in minor gynecology. Internally, caffeine, belladonna, strychnia, digitalis, iron, and the bromides, may be given.

27. Climacteric diabetes in women.

Mr. Tait (*Practit.*, 1886, vol. xxxvi., p. 401) here records six cases of climacteric diabetes, with vulvar eczema, brought to his recollection by Lecorché's paper, "Du Diabète dans ses Rapports avec la Vie Utérine," in the *Annales de Gyn.*, October, 1885. (For abstract, see *Intern. Journ. of Med. Science*, 1886.)

In the first three, the patients were aged respectively forty-nine, forty-five, and forty, and suffered from intense vulvar eczema, due to the presence of sugar in the urine. On examination of the external genitals, small reddish grey flakes were found, which microscopically proved to be *torula cererisise*, in great abundance. A lotion of hyposulphite of soda (3j. to Oij.) and solid opium, in pill, gave great relief to all.

In the fourth and fifth cases, the soda hyposulphite failed, but ultimately an ointment of sulphuret of potassium (gr. x. to the 3j.) relieved both patients. Opium had also to be given in large doses.

In the last case recorded, an ointment of hepar sulphuris was beneficial, and this he believes to be the best local application. Mr. Tait recommends ointments in preference to lotions, and has got better results from solid opium than from morphia or codeia.

[In three cases, I found borax and water (3j. to the pint) beneficial. Alteration in diet was hurtful, and mental worry was in all of them associated with, or the cause of the diabetes.]

28. Permanganate of potassium in amenorrhœa.

Dr. Billington (*New York Med. Record*, March 6, 1886) discusses the effect of permanganate of potassium in amenorrhœa, as originally recommended by Drs. Ringer and Murrell. He believes that the effect of the drug, in bringing on menstruation, is

due to the manganese, and not to the oxygen, and that the binoxide of manganese is equally efficient. As is well known, permanganate of potassium requires to be made up as a pill, with kaoline and vaseline, owing to spontaneous combustion occurring if any excipient containing glycerine be used. When the salt is administered in solution, or compressed tablets, it causes severe gastric pain, but this may be avoided by giving it in gelatine capsules.

The administration of this drug should be begun a week before the expected period.

One method of administration is to rub in, over the thighs or abdomen, 1 drachm of a 20 per cent. ointment of the oleate of manganese every night for a week prior to the flow.

In a letter to Dr. Billington, Dr. T. G. Thomas recommends permanganate of potassium strongly in the following classes of cases:—

(1) In young country girls who become amenorrhœic in town boarding-schools.

(2) In those who have amenorrhœa after sea-sickness.

(3) In ladies between thirty and forty who are getting stout and beginning to have scanty menstruation. Dr. Thomas finds that the pain following its administration, in tablet form, is prevented by the patient swallowing half-a-tumblerful of cold water.

Dr. Fordyce Barker, in a letter, recommends manganese as a regulator of menstruation, and as better than iron in chlorosis and anæmia.

29. Electricity as a therapeutical agent in gynecology.

Dr. Mundé (*Am. Journ. of Obst.*, 1886, p. 1233), in a long paper, gives the result of his experience in the use of electricity in gynecology. The forms of electricity adopted were the faradic and constant current, the following table giving the indications for each:—

<i>Faradism.</i>	<i>Galvanism.</i>
Deficient development of uterus and ovaries.	Hyperplasia uteri.
Amenorrhœa.	Chronic ovaritis and pachy-salpingitis.
Subinvolution and menorrhagia.	Chronic inflammatory conditions of peritoneum and connective tissue.
Superinvolution.	Pelvic neuralgia.
Uterine displacements.	Erosions of cervix.
Uterine fibroids (interstitial).	Subinvolution.
	Uterine fibroids (sub-peritoneal).

Specially shaped electrodes are necessary (olive-shaped, rounded, oval, intra-uterine), as well as small (2") and large sponges

(4"×6"×3"); the large sponges should have rubber-cloth on one surface slightly projecting over the edge.

The expense of an apparatus sufficient is one hundred dollars at least.

Either pole may be used indifferently, except in painful conditions, when the positive pole should be placed next the painful part.

Two sittings a week, of quarter to half an hour should be given, and the treatment continued from three to six months.

Mundé gives a series of cases, with results, where he employed this method. The following are a few of his best:—

Amenorrhœa.—"Three and four months of uninterrupted treatment by almost daily intra-uterine faradisation, daily hot vaginal douches, and hip-baths, brought on a normal menstrual flow which, by means of several months' further treatment, gradually resumed its healthy periodicity."

In another case, Dr. Mundé's treatment brought on menorrhagia, requiring the vaginal tampon. In *erosion of the cervix*, where "week after week, and month after month, iodised phenol, iodoform, nitrate of silver solutions, and, finally, nitric acid, are applied, and still the erosion remains," Dr. Mundé has found electricity "to have a beneficial influence towards starting cicatrization."

Dr. Mundé's general conclusions are shortly, as follows:—

- (1) Electricity locally applied is a valuable agent in gynecological practice, and should be more widely used than it is.
- (2) It does not require special knowledge or experience.
- (3) Properly used it can do no harm.
- (4) It should be used only in chronic conditions, and, if it is the galvanic current, should give no pain.
- (7) Perseverance is essential.
- (8) Acute and sub-acute inflammations contra-indicate treatment.
- (9) Usually, one gets in organic disease, not cure, but relief from pain.

Dr. Mundé's conclusions seem to us not deducible from his paper for the following reasons:—

(1) How can faradic electricity bring on menstruation in one case, and check it when excessive in another; make the superinvolted uterus bigger, and the subinvolted uterus smaller?

(2) In the case of amenorrhœa given, whether did the electricity, the time, the hot vaginal douche, or the rest of the medicamenta do good?

The constant current may do good in pain, but in the other conditions it is apparently of little use.

The paper would have been much more valuable in the way of settling the value or worthlessness of electricity in such cases, had it been made the only treatment. It is also a question whether the abundant local treatment Dr. Mundé mentions is advisable in minor cases.

30. The continuous catgut suture in plastic operations.

Schroeder (*Zeitschr. für Geb. und Gynaek.*, Bd. xii., Hft. 1, 1886) points out that the essentials for success in perineal operations are (1) proper preparation of the wound surfaces; (2) accurate apposition of these; (3) removal of all disturbances of the healing process.

(1) The only points on this head are to avoid the tension brought about if the raw surfaces at the introitus vaginæ are extended too far out, and to allow no irritating fluids to play on them. Schroeder uses at the operation only distilled or boiled water.

In passing the sutures, the following is the way Schroeder recommends, say, in a case of perineal tear into the rectum. A needle threaded with catgut is passed in at the upper angle of the wound, knotted, and then the deep part of the wound sutured with it continuously to the lower end of the anus; the margins of the rectal surface are thus brought together, and the suture now run up towards the first knot so as to bring together the middle portion of the raw surface, and finally any superficial portions not yet in apposition. In this way bleeding is soon arrested and accurate apposition of the raw surfaces ensured.

The patient should be kept at rest, with her knees tied for three weeks. The diet must be spare, and the escape of flatus, without damage, allowed by subcutaneous section of the splincter ani, afterwards, by the passage of a small tube.

In twenty-five cases there were twenty-four successful. One failed from flatus opening up the wound and causing profuse bleeding. In one, a recto-vaginal fistula remained; in several, these were present at first, but ultimately closed.

In colpography, the results of the continuous catgut suture are better in the posterior operation than in the anterior. It is not good in cervical operations, as it does not bear the necessary downward tension well.

(The catgut used is Küster's juniper catgut, which remains unabsorbed nine days.)

31. A contribution to the use of corrosive sublimate in laparotomy.

Dr. Otto Schmidt, Cologne, (*Centralblatt für Gyn.*, 1886, p. 227) performed laparotomy to remove an enlarged ovary, the cause of recurrent perimetritis. The ovary was the size of a hen's egg, firm and immovable. The other ovary (the right) was normal.

At the laparotomy, the intestines had to be lifted from the abdominal cavity, and lay more than an hour in compresses soaked in corrosive sublimate (1—5000).

After great difficulty, the ovary was removed and the peritoneal toilette completed. When the sponges were counted, one was missing, and could not be found; it was, therefore, concluded that it had been thrown out by one of the nurses.

The patient recovered, but two and a half months afterwards, pus came from the incision and fistulæ formed in the lowest suture track on the left side; a sound passed 10 cm. perpendicularly through this. After dilatation with a tupelo tent and drainage, the discharge did not diminish, and therefore the sinus was explored with the finger and a smooth cavity containing the sponge found. Its removal was followed by cure.

[A similar case has been recorded by Wilson in the *American Gynecological Trans.* for 1884. The temporary removal of the intestines from the abdominal cavity in any laparotomy is a proceeding not to be recommended.]

MIDWIFERY.

BY FRANCIS H. CHAMPNEYS, M.B., F.R.C.P.,

Obstetric Physician to St. George's Hospital.

1. Cocaine in the uncontrollable vomiting of pregnancy.

Engelmann (*Centralbl. f. Gyn.*, 1886, No. 25) used cocaine in a very severe case of the above. All the usual "specifics" had failed, and the woman was reduced to a skeleton through the inability of her stomach to retain food. Ten drops of a 10 per cent. solution of cocaine three times a day immediately stopped the vomiting, and led to rapid recovery.

The practitioner will be glad of another genuine mode of treatment for this affection, always remembering, however, that the malady is one which often ceases suddenly without any remedy, and not forgetting the great class of pernicious cases, which appear to be of a separate nature, and in which the prognosis is often grave.

2. On suppression of pain during parturition by local application of hydrochlorate of cocaine.

M. S. Jeannel, interne at the Montpellier Hospital (*Nouvelles Archives d'Obstétrique et de Gynécologie*, No. 4, April 25, 1886), narrates a case of intense vaginitis of gonorrhœal origin where the pain was so severe that the sufferer, unable to endure the anguish any longer, had attempted to drown herself in the river. Complete relief from the pain was afforded by injection of cocaine of the strength of $2\frac{1}{2}$ per cent., administered two or three times a day. The disease was then subjected to ordinary treatment. He mentions having seen the alkaloid used successfully in many instances by M. Gayraud, both in cases of phimosis subcutaneously, and as an urethral injection in acute blennorrhagia and cystitis. These results, backed by those of laboratory experiments, suggested to him the possibility of lessening considerably the sufferings of parturients by this agent, if not of abolishing them.

completely. His anticipations have been confirmed not only by his own observations, but by those of MM. Doléris and Dubois, and those of Dr. G. H. A. Dabbs, so that he affirms that childbirth is now rendered by cocaine an almost painless process.

Before proceeding to his special subject, M. Jeannel gives a brief history of the employment of cocaine in obstetrico-gynecology. Tracheloraphy, catheterism, obstinate vaginismus, cauterisation of the vulva and vagina for gonorrhœa, removal of vegetations and condylomata, scarification of the cervix, and the application of the curette to the uterine cavity, are all mentioned as having afforded instances of the analgesic operation of the drug in the hands of various practitioners. Fissures of the nipple, refractory vomiting in early pregnancy, and obstinate hiccup, have also been treated with the same result, the remedy being employed internally in the two latter.

Nevertheless, these successes had not induced any writer in France or elsewhere to advocate the use of cocaine to allay the throes of parturition. On the contrary, Fränkel had expressed his opinion that cocaine was not likely to prove effective for this purpose, because its anæsthetic action was essentially superficial, while the anguish of labour results from distension and dilaceration of the tissues in their whole extent.

MM. Doléris and Dubois were the first to carry out this novel application of cocaine, and recorded their results in the *Journal des Sociétés Scientifiques* for Jan. 21, 1885. With a 4 per cent. solution in glycerine and water they swabbed the cervix uteri, the vaginal culs de sac, the vulva, and the whole vaginal surface. Not only all suffering disappeared, but further, which is specially important, the parturition was in no wise disordered either in its normal mechanism, nor in the time necessary in normal conditions for its accomplishment. The muscle contracts with its wonted vigour, and the reflexes, which have their starting-point in the mucous membrane of the body and neck and in that of the vagina, are in no degree lessened, only the associated element pain is suppressed. M. Doléris' experience is based upon eight cases, in six of which the result has been very precise. Primiparæ, in whom the dilatation of the neck caused such great suffering that they uttered continual shrieks at every contraction, have been suddenly calmed by one or two minutes' swabbing with cocaine. In women, who have come to the stage of expulsion, and who were rendered motionless by pain at each uterine contraction, the suffering has been so greatly diminished that they were no longer afraid to "bear down" when requested to do so by the accoucheur. M. Jeannel claims the idea of employing cocaine in this manner

as essentially French, and its realisation for the first time as French also. He warns his readers against using injections of corrosive sublimate in cases where they desire to procure analgesia by cocaine, as the alkaloid is speedily decomposed by this agent. He also remarks that not a few women suffer very moderately in their confinements, and that consequently they cannot afford an evident demonstration of the pain-calming property of the drug. Cases II. and III. on his list he admits may have been of this kind. In the remainder the women were extremely sensitive, and the application was not made until the pains were well developed, and had attained the paroxysmal stage.

Case IV. was that of a young woman, æt. twenty, who had been confined once twenty-two months previously. Her labour pains commenced at three p.m. of May 22, 1885. The presentation was left anterior occipito-iliac (1st vertex). During the evening the pains were strong, and came on every fifteen minutes. The membranes broke at one a.m. of the 23rd, the os being then dilated to the size of a five franc piece. The uterine contractions became more and more frequent, were very painful, and forced the patient to utter continual cries. At five a.m. the os was completely dilated, the head had descended into the pelvis, sharp pains followed each other in quick succession, eliciting loud cries; the patient almost mad with pain, and remembering that her first labour had required the application of forceps, begged earnestly that it might be used again. At 5.30 a.m. a 5 per cent. solution of cocaine was applied on a pledget of cotton-wool to the cervix, the vaginal culs de sac, and the vaginal surface, and the pledget was left *in situ*. This procedure was repeated twice at intervals of three minutes. Seven minutes after the last application, the outcries which had been continuous and uninterrupted, became abruptly intermittent and much less loud. The woman feeling herself relieved asked if she might get up, and walk about a little. Some moments later pain was completely absent in the intervals of the contractions; moreover it was much mitigated during the contractions, so that the rending shrieks which she had so lately poured forth were replaced only by a few moans. From this moment all cries ceased, the labour progressed rapidly, the contractions became stronger and more regular. Seeing that the pain had disappeared she thought that the labour had stopped, and she again asked to be allowed to get up and walk about in the room. But at the moment of rising from the bed she stopped, saying calmly, "Come to me, sir, I think the child is coming out of itself." In fact the head was outside, and had consequently passed the vulva without the mother uttering a cry. The

confinement terminated at 6.20 a.m. by the birth of a little girl in perfect health.

Case V. is that of M. G., æt. thirty-four. She was confined for the first time eight years ago. The confinement was long and laborious, and the reminiscences of it were so painful, that for eight years she dared not run the risk of a second pregnancy. Her labour commenced on June 4, about four p.m. The presentation was occipito-iliac left anterior (1st vertex). The pains, at first slight and far apart, became gradually more frequent, and so severe, that in the evening the patient was unable to refrain from screaming. At eleven p.m. the pains were relatively short, but very frequent and remarkably intense. At 11.13 p.m. the application of cocaine was commenced, and was repeated twice in the next fifteen or twenty minutes. Some moments after the last an energetic contraction occurred, which lasted twice as long as the preceding. The patient, who had uttered no cry after the second application, complained only of a vague pain in the loins, but of little or none in the abdomen. About one a.m. the os was completely dilated, and at 2.30 the child was expelled without the least cry being heard. This case is exactly like the preceding, in that the pains were fully developed, went on increasing in frequency and severity, and were suppressed at the commencement of the second stage of labour, *i.e.*, at the very time when they should have occurred with their maximum intensity.

Case VI.—This patient, a primipara, was twenty-one years old. She felt the first pains at four a.m. of June 20. An hour later the membranes broke, and most of the liquor amnii was expelled early. At seven a.m., when admitted into the hospital, the labour was not far advanced; the head was presenting in the left anterior occipito-iliac position. At one p.m. the uterine contractions were frequent and very powerful, and during them she uttered piercing cries, while the intervals were filled with plaintive groanings. At 1.20 p.m., the head being in the pelvis, and the pains continuing to be intolerable, the vulva, the vagina and its culs de sac, were well swabbed with a 5 per cent. solution of cocaine hydrochlorate, twice at an interval of three minutes. In ten minutes a strong contraction took place, but the parturient instead of making an outcry as before only moaned a little. In the next, fifteen minutes later, a very energetic one, the patient declared that she was almost free from suffering. Also in all the succeeding contractions she set herself to bear down powerfully, which greatly enhanced the expulsive force, and she was shortly delivered of a splendid boy, with no more expression of suffering than some sighs.

In England Drs. Dabbs and Moore have had similar satisfactory results from the employment of cocaine in labour. The former uses a 12 per cent. solution, the latter hollow vaginal suppositories introduced on the finger.

In summing up his cases M. Jeannel observes that the first was a failure because the efficacy of the cocaine was destroyed by the chemical action of the corrosive sublimate. In cases II. and III. the analgesic influence of the cocaine was very positive, though not so perfectly demonstrated as in the three last. In these the patients were extremely sensitive, the first stage of the labour was allowed to pass without interference in order that the pains might attain their full intensity, and the presentation was of the head. This position of the foetus, though the best for itself, is the most unfavourable and painful for the mother. In these three cases the application of cocaine in the short space of fifteen minutes, if not totally suppressed, yet singularly attenuated the severe pains of the period of expulsion. And, what is equally remarkable, is, that the arrest of the pain, far from retarding in any degree the accomplishment of parturition, induces on the contrary a more rapid expulsion by allowing the parturient delivered from her anguish to make more energetic efforts.

M. Jeannel then proceeds to cite some conclusions arrived at by M. Doléris as to the compound nature of labour pains, and the distinction to be made between those which are and those which are not affected by cocaine. (a) The first pain-causing element is uterine contractions, especially of the lower segment of the organ. This he rates as almost insignificant; it is unaffected by cocaine. (b) The second results from the distension, and dragging of the nerves of the supra-vaginal and intra-vaginal portions of the cervix, and of those of the vagina. This is remarkably lessened by cocaine. (c) Thirdly, there is a keen, deep-seated pain due to compression of the large pelvic nerve-trunks, against which we are powerless. (d) Fourthly, there is pain felt by the mucous membranes; this is abolished by the drug. (e) Lastly, there is the pain at the vulva during expulsion, sometimes intense; this also yields to cocaine. Our author finds his experience to coincide in every respect with that of his Parisian colleague.

The paper concludes with some directions as to the procedure. The salt used is the hydrochlorate; it must be in aqueous solution, and of the strength of 5 per cent. A speculum is to be employed for its application during the first stage of labour; during the second it is unnecessary. It may be necessary to repeat the application several times, on account of the copious

secretion of mucus impeding the access of the medicament to the surface of the genital passages.

3. Hydrastis canadensis does not induce uterine contractions.

Schatz (*Berl. klin. Wochenschr.*, May 10, 1886) again discusses the action of *hydrastis canadensis*, and defends his original view that, while the drug has a vaso-motor action on the uterus, it does not directly act on the muscular fibres and cause them to contract. Fellner, from recent experiments, believed that such a direct action did occur at any rate in dogs and rabbits, but Schatz thinks the contractions that Fellner noticed were more probably secondary to the anæmia produced by the drug, and not caused by its direct action on the muscular tissue. In this respect it differs from ergot, and may be advantageously used where the latter would be injurious, owing to the contractions it might produce.

4. Palpation of the ureters per vaginam.

Sänger (*Arch. f. Gyn.*, Bd. xxviii., p. 54) publishes a series of cases of urinary disorders in which the ureters could be distinctly felt per vaginam. They were about as thick as a goose-quill, and felt in the upper third of the vagina, beginning about 2 cm. (.75 in.) below the portio vaginalis. The ureters cannot be felt in every woman, but are frequently to be made out during pregnancy. S. succeeded in eight out of ten cases of pregnancy, but has never felt them during the lying-in period. The reason why they can be often felt during pregnancy is that they are hypertrophied, and that during the second half they can be pressed against the presenting head.

Observations, made on the dead subject, coincide with the clinical ones in every respect. Sängér concludes that it is often possible to feel the pars pelvica of the ureters per vaginam, from the points at which they enter the bladder to the base of the broad ligaments, a distance of at most 6--7 cm. ($2\frac{1}{2}$ in.) = half the length of the pars pelvica, and a quarter the total length of the ureters. In pregnant women they can be felt for 10 cm. (4 in.) S. thinks it of much clinical importance in any case of urinary disorder to palpate the ureters in order to discover whether they are healthy or not.

5. Pregnancy complicated by diabetes.

Dr. Emerson Warner, of Worcester, Mass. (*Boston Medical and Surgical Journal*, May 13, 1886, p. 436), reports a case of diabetes in a child-bearing patient, aged thirty-two. She married at twenty-one. Her first pregnancy was natural, labour was protracted, a living child was delivered with instruments. At the end of the fifth month of her second pregnancy, diabetic symptoms

—pruritus pudendi, thirst and polyuria—set in. Both this and the two following pregnancies terminated in stillbirth. All the children were above the average weight. Each of the stillborn children had died probably two weeks before delivery. The patient made a fair recovery from each confinement. Then followed four miscarriages, at five months, two months, six weeks, and again at two months. Subsequently she was delivered of another stillborn child in January, 1886, the fœtus having died probably some weeks before. From the fifth month onwards, she suffered much from œdema, pruritus, dyspnoea, restlessness, sleeplessness, and great weakness. Labour set in at the full time of pregnancy. The child, as in the previous delivery, presented transversely, and turning was resorted to. Recovery was somewhat protracted. The quantity of urine rose from three to six gallons per diem, and contained thirty-nine grains of sugar to the ounce. Three months after delivery she was passing three gallons of urine per diem, and was in very good health, but a tendency to the formation of sores on the fingers and elsewhere had developed. In May the urine had a specific gravity of 1035—1040, and the patient was passing eighteen to twenty-four ounces of sugar in twenty-four hours. Milk diet was largely taken throughout. Various medicinal remedies were tried without appreciable results. (See also *Matthews Duncan in Obst. Trans.*, vol. xxiv., p. 256.)

6. On habitual death of the fœtus in utero, due to renal disease in the mother.

Fehling (*Arch. f. Gyn.*, Bd. xxvii., p. 300) publishes some observations in which renal disease in pregnant women appeared to be connected with habitual death of the fœtus. Five cases are recorded in which albuminuria was detected during pregnancy, sometimes due to chronic parenchymatous nephritis, sometimes to true granular kidneys. In one or two instances constitutional sequelæ, caused by the contracted kidneys, showed themselves. F. cannot as yet say whether the albuminuria preceded pregnancy or was secondary to it, but the former view is most probable. In several patients slight albuminuria persisted after delivery, increasing every time pregnancy recurred. The rapid diminution of the albuminuria after the death of the fœtus was very marked. No evidence of syphilis could be detected in either parents or fœtus.

The renal disease in these cases led to the death of the fœtus, owing to the placenta having become infiltrated with white infarcts, and to its healthy tissue, therefore, no longer sufficing to nourish the fœtus. The latter was usually expelled six to eight

or even more weeks after death. The placenta was invariably smaller than normal, or even atrophied, the weight being below the average. The infarcts consisted of fibrine nodules, such as are often found in small numbers even in healthy placenta. In addition to the usual wedge-shaped nodules, F. found others irregular in form, tough and solid on section, or filled with vacuoles or blood.

The prognosis for the child is very bad; in only one of Fehling's cases was the life of the child saved, and then only by the induction of premature labour. The prognosis is more favourable for the mother; but where the renal disease is severe, she runs great risk from eclampsia and uræmia.

7. Extrusion of fœtal membranes at the seventh month, with subsequent retraction.

The following was reported by Dr. F. E. Chatard, jun., at a meeting of the Baltimore Gynæcological and Obstetrical Society on March 9 (*New York Medical Journal*, April 3, p. 389). A woman who had attained the thirty-third week of her second pregnancy, experienced, after a walk of unusual length, a sense of weight and fulness about the genitals. On examination, a soft, fluctuating tumour, about the size of a small chicken's egg, was found protruding from the vulva. This could be traced by the finger within the vagina, and extended up to and within the external os uteri, which was dilated to about the size of a silver quarter-dollar. The tumour was nearly cylindrical in shape, moderately tense, with walls of about the thickness of the membranes at term, and its contents were perfectly fluid. No uterine contractions or pains were apparent. The patient was directed to rest in bed. The sense of weight and fulness disappeared. The tumour gradually returned within the womb, and on the fourth day the os had regained its normal size and condition, and no membrane could be felt. The patient completed her term of pregnancy; the labour was normal, the bag of waters forming as usual. The retraction of the membranes is ascribed by the author to the involuntary muscular fibres said to exist in the outer layer of the amnion.

A report on the exact condition of the placenta and membranes after delivery, as well as on their behaviour during labour, would have rendered the case more complete.

8. The delivery of an after-coming head.

Freudenberg (*Centralbl. f. Gyn.*, 1886, No. 25) agrees with Koppe that the forceps for extracting an after-coming head is not nearly as useful as expression (especially Koppe's mode of expression), in ordinary cases; the advantage of the instrument is in

very difficult cases where expression has failed and perforation is under consideration. By the phrase "compression in excess of physiological limits," used in his former paper (*Centralbl.*, 1885, No. 45), Freudenberg meant not (as Koppe supposes) "any excess beyond that exerted under physiological and normal conditions," but "the degree of pressure which can be applied under pathological conditions without injuring the head."

9. On the application of the forceps to an after-coming head.

Freudenberg contributes an article to the *Centralbl. f. Gyn.*, March 27, 1886, in which he combats Lomer's view that it is a difficult operation to apply the forceps to an after-coming head, partly because the foetal parts block up the vagina, partly owing to the firm impaction of the head caused by previous attempts at extraction. Freudenberg maintains that if the body of the child is properly held it cannot cause any difficulty to the forceps being passed up along the sacral concavity, and when the blades reach the brim there is always plenty of room near the sacro-iliac synchondroses for them to glide up, even if the head is impacted in the antero-posterior diameter.

The application of the forceps is usually even easier when the head has descended into the pelvic cavity, though Freudenberg does not deny that in exceptional circumstances it may be difficult.

These cases of an after-coming head have some advantages peculiar to themselves: the delivery of the trunk, which has already taken place, has thoroughly dilated the soft parts; the neck forms a good guide to the head, and the fixed condition of the latter is a help in applying the forceps. Freudenberg agrees with Lomer, that this operation is sometimes the means of saving a child's life, but thinks he has over-rated the difficulty attending its execution.

For remarks on the whole question we refer our readers to last year's "Year-Book," pp. 231-33.

10. When should the forceps be removed from the head before complete delivery?

Lwoff (*Centralbl. f. Gyn.*, 1886, No. 25) under certain conditions advocates the removal of the forceps before the head has been completely delivered, and lays down rules on the subject:—

The extraction of a head by forceps is best left unfinished:

(1) When the instruments have been resorted to on account of obstruction in the pelvis, while the expelling forces are normal. This rule applies mainly to primiparæ in whom, when the forceps

is left on the head (inasmuch as it invariably increases the bulk of the presenting part), the perinæum and vagina run very great risk.

(2) In occipito-posterior positions the perinæum is greatly endangered, even in multiparæ, and the instruments should be removed as soon as one-fourth to one-third of the head is visible in the vulva. By this plan Lwoff almost always succeeds in preserving the perinæum. Nor is the labour much delayed by taking off the forceps; it generally terminates spontaneously within the next quarter of an hour.

It must, we think, be remembered, that, if the forceps is well applied, it holds the head so firmly that it may help to keep back, as well as to deliver, the head, and that, if well carried forward at the end, extension with advance may be well secured by its use, and the perinæum thus guarded rather than endangered.

11. On the continuous catgut suture in cases of ruptured perinæum.

Various writers have recently recommended continuous catgut sutures in the place of ordinary interrupted silk sutures for bringing the edges of wounds together. Keller communicates to the *Archiv f. Gyn.*, xxvi., p. 283, the results he has obtained in applying this form of suture to cases of ruptured perinæum, much better results, he says, than those formerly seen when interrupted silk sutures were used.

The plan Keller adopts is the following:—After removal of the after-birth, the vagina is irrigated and the sides of the tear are thoroughly cleansed with a solution of corrosive sublimate $\cdot 5$ per 1000. He then proceeds to sew up the wound, beginning at the edge of the vagina with an ordinary knotted suture, and then carrying a continuous suture in spirals back towards the anus. On reaching the posterior end of the tear, the end of the continuous suture may be fastened by knotting it in with an ordinary interrupted suture, or it may be tied on to the last spiral turn. In a few cases, in which the edges did not come into very accurate contact, Keller used one or two superficial interrupted catgut sutures in addition to the deeper continuous ones. The wound, when sewn up, was covered with iodoform collodium, and the patients were told to lie quiet; their legs were never tied together. Keller was greatly pleased with this form of suture. The line of union was smooth and regular, much more so than with the ordinary *modus operandi*. He ascribes this partly to the edges having been brought into more accurate contact, partly to the greater elasticity of the catgut. In forty-one out of forty-two cases the results were highly successful. One special advantage

of the catgut is that it undergoes absorption, and, therefore, does not need removal.

12. Prolapse of the umbilical cord through the rectum.

Stroynowski (*Centralbl. f. Gyn.*, May 29, 1886) publishes an instance of the above rare occurrence during labour. Shortly after rupture of the membranes, a loop of the umbilical cord 24 cm. ($9\frac{1}{2}$ in.) long, was observed to be prolapsed through the rectum. The child, well-developed, but partly asphyxiated, was expelled about half an hour afterwards, drawing the prolapsed umbilical cord with it. It was successfully resuscitated. On vaginal examination, post partum, an aperture could be felt immediately above the perinæum, and leading into the rectum, through which the prolapse had occurred.

Stroynowski thinks that either the recto-vaginal septum was unusually weak, and gave way before the pressure of the head, or that the midwife perforated the septum in attempting to force down the head by pressing on it per rectum. The tear healed entirely.

13. Injuries of the vagina and perinæum accompanying labour.

Freund (*Gyn. Klinik*, Bd. i., p. 135) after briefly mentioning the injuries to the cervix associated with labour, describes those of the vagina, and points out that their frequent occurrence at particular parts of the vaginal canal depends on the anatomical structure of the walls at those parts, and on the extent to which they are stretched during labour. The regions most likely to tear are, according to him, in the laquear vaginae, the lateral portions (where the injuries are usually prolonged from tears in the cervix); in the middle portion of the vagina the posterior wall, especially the portions on either side of the columna rugarum posterior; and lastly at the floor of the pelvis, also the posterior portion. The portion bounding the columna rugarum posterior is specially liable to give way on the side on which the face descends. At the anterior vaginal wall, the parts on either side of the columna rugarum anterior are occasionally endangered, especially in presentations with vertex anterior, and at the anterior wall of the vulva the pressure of the descending head often leads to bruising of the structures lying near the symphysis and the pubic arch.

The above injuries may occur where the vagina is of normal structure, but are most frequent where predisposing influences are present. Freund mentions four such: 1. Cicatrices in the laquear, left by previous parametric and para-vaginal inflammatory processes, by operations for fistula, by excision of large cysts,

&c. 2. Rigidity of the vagina in elderly primiparæ, which especially affects the lower third, and only rarely (in persons above forty) the vaginal fundus. 3. Congenital narrowness of the vagina with a generally contracted pelvis, or a general infantile formation of body. 4. Limited extensibility at certain places, especially where bony masses project into the pelvic canal, *e.g.*, unusually prominent ischial spines.

The severest injuries of the parturient canal are associated with the application of the forceps, owing to the circumference of the head being increased by the forceps, to the acceleration of the exit of the head, to the edges of the blades where they are unsymmetrically applied to the head, to the increased relative displacement of the vaginal walls, and to the normal mechanism of delivery being interfered with. The injuries usually affect the same parts as those associated with spontaneous labour, but are more severe.

Freund then discusses the influence which Tarnier's axis traction forceps has on the production of vaginal injuries. As regards the four first points mentioned above, he finds no great difference between Tarnier's and other forceps; but, in relation to the fifth, Tarnier's has distinct advantages. It is specially useful where the head lies in the pelvic brim, or is still movable above it.

14. Recent improvement in the performance of Cæsarian section.

Sänger contributes a lengthy article to the *Archiv f. Gyn.* (Bd. xxvi., p. 163) on the above subject, in which he contrasts the advantages of the Cæsarian and Porro's operation, and discusses the improvements that have lately been introduced into the performance of the former. He also publishes a successful case of Cæsarian section.

The all but unanimous approval with which Porro's operation was received, and which it has till lately enjoyed, is due to the high mortality which formerly accompanied Cæsarian section. That excessive mortality is, however, avoidable by means of modern improvements in the *modus operandi*, so that, although Porro's method continues the best for some cases, it can no longer be allowed to retain its pre-eminent position.

The following are some details of the Cæsarian section which Säger performed according to his improved method:—

A. S., æt. twenty-one; generally contracted, flat, rickety pelvis; conjugata vera, 6 to 6·5 cm. (ca. 2½ in.) The operation was undertaken as soon as the pains had become strong, and the os fully dilated. The abdominal incision measured 16 cm. (6¼ in.),

the uterine nearly as much. In making the latter, the placenta was encountered in its whole length and partly cut, partly torn through, after which the child was extracted. Hæmorrhage moderate in quantity. The child was extracted in a state of partial asphyxia, but soon revived.

The uterus was now drawn out of the abdomen and supported on a napkin; the placenta was removed, and the lower part of the uterus constricted with an indiarubber tube. No fresh hæmorrhage followed the removal of the placenta, and altogether the discharge of blood from the edges of the uterine incision and from the cavity was very moderate. It was most abundant from the lower portion of the incised surface which was found to have involved the lower segment of the uterus.

The next step was the resection and sewing-up of the uterus. Säger first of all detached the peritoneum for a distance of 3—4 mm. (.15—.2 in.) along the whole incision, and then removed a slice of muscle from each incised surface 1—2 mm. (.04—.08 in.) in thickness. Twenty-eight sutures were used to bring the edges of the wound together, eight being silver, and twenty silk. The silver sutures were passed through the entire depth of the uterine wall, except the mucous coat, on each side and then twisted.

The superficial sym-peritoneal silk sutures were so inserted as to bring the opposed surfaces of the liberated strips of serous membrane into accurate contact. When they had all been inserted, the tube constricting the uterus was removed, but scarcely a drop of blood made its appearance. The uterus was washed with corrosive sublimate 1—1000, and returned into the abdomen, the wound in the latter being closed in the usual way.

The patient did well after the operation, the highest temperature being 37.9° (100° F.); highest pulse rate 120. The patient was able to leave her bed on the fifteenth day.

Säger next proceeds to discuss the various steps in the operation.

He recommends corrosive sublimate for disinfecting the abdominal skin and the generative organs before the operation. In making the uterine incision, the lower segment should be avoided, owing to the circular sinus and large veins lying there. He believes that the numerous deaths from hæmorrhage that formerly accompanied Cæsarian section were due to those vessels being divided. The limits to which it is safe to go may be ascertained by the looseness of the peritoneum over the lower segment, and the length of the incision should be regulated accordingly.

As regards the incision involving the placenta, Säger's case

showed that, even when the latter lay in the direct line of incision, no great hæmorrhage or difficulty need be experienced, nor was the insertion of the sutures rendered more difficult. He thinks it much more serious to wound the coronary vein of the lower segment than to incise the placenta.

Sänger goes fully into the best way of sewing up the incised uterus, and strongly commends the plan of using what are termed "musculo-muscular and sero-serous sutures," the former being deep, the latter superficial. Three other points are important: rigid antisepsis; leaving the decidua uninjured by the stitches; and the use of such materials for the sutures as are not easily absorbed, *e.g.*, silver and silk.

In inserting the sutures, it is most important that two peritoneal *surfaces* be brought into intimate contact; this is far safer than merely bringing the two *edges* together, though success has been attained on the latter plan. In order to approximate the surfaces, it is best to liberate a margin of peritoneum and to cut away a thin slice of muscle on each side. Sanger thinks a thickness of 2 mm. (.1 in.) quite enough, and has seen no harm from it. The serosa should be liberated for a distance of 4 mm. (.2 in.). The sutures should be inserted as close together as possible, one helping to support the other. Moreover, it is best that the sutures should not penetrate the uterine cavity, but run beneath the decidua. Otherwise there is risk of the lochia penetrating into the uterine tissues at the points traversed by the sutures, and leading to septicæmia. Neither silver nor silk sutures do harm; silk is entirely absorbed in process of time; silver may either become embedded in the uterine wall and remain innocuous indefinitely, or be discharged into the uterine cavity.

A solution of corrosive sublimate is the best for washing the uterus.

These improvements in the performance of Cæsarian section have greatly modified its position *versus* Porro. As long as it was "almost certain death," Porro's operation, with a mortality of 56 per cent., was preferable; now, however, that modernised Cæsarian sections can show a mortality of only 40 per cent., while they have the advantage of not depriving a woman of her uterus and ovaries, they should be regarded as far superior operations.

15. Simplification of Cæsarian section.

Sänger (*Centralbl. f. Gyn.*, 1886, No. 28) summarises the essential points in his improved method of performing Cæsarian section, and tries to simplify the operation as far as possible. Two assistants are enough; no special instruments are necessary.

The uterine incision should be longitudinal and median, but avoid the lower segment; if the placenta is met with during the incision, it must be rapidly cut through, or stripped off from one side. The fœtus should be extracted feet first.

The neck of the uterus may be squeezed or twisted while the placenta is being removed and the sutures inserted, the cavity of the uterus being disinfected with iodoform. As regards the uterine sutures, the main point is to insert two sets; one for bringing together the peritoneum and muscular coat (not the decidua), the other for accurately uniting the two edges of peritoneum. So far silver wire has proved most successful. Resection of the muscular coat is only necessary if it projects beyond the peritoneum.

The uterus should be washed with corrosive sublimate .5 per mille; and the line of suture treated with iodoform; all hæmorrhage having previously been arrested. No drainage should be used. The only difficulty in the operation consists in sewing up the uterus, and every surgeon ought to be taught to do this. The after-treatment should be as inactive as possible.

16. Pregnancy in one horn of uterus bicornis; retention of the mature fœtus; removal of the pregnant horn.

Wiener (*Archiv f. Gyn.*, Bd. xxvi., p. 234) records a case of the above in which laparotomy was performed on account of a tumour on the right side of the abdomen, which was seriously affecting the patient's health. The nature of the case was very obscure, some features in the woman's previous history pointing to pregnancy, others to the presence of another form of tumour. On opening the abdomen, a uterus bicornis was found, the right horn being pregnant. This was opened, and the fœtus, which was in a state of commencing maceration, extracted. The uterine horn, in which the latter had lain, was then cut off, the pedicle tied, treated with iodoform, and returned into the cavity. The patient made a good recovery. The fœtus had all the characters of maturity, and measured 52 cm. (20 in.).

Wiener points out that this rare case must be added to some others recently published, which show that it is not impossible for pregnancy to reach its natural duration in a rudimentary uterine horn, as was formerly assumed to be the case.

17. Corrosive sublimate as an antiseptic.

By Dr. Lucien Butte. (*Nouvelles Archives d'Obstétrique et de Gynéc.*) The author, in the preface to the paper, expresses regret that so little attention has been drawn to the risks connected with the use of perchloride of mercury as an antiseptic

injection in midwifery; in his opinion the question should be boldly investigated, and all fatal cases recorded. The paper itself is divided into three sections; the first part merely deals with the history of the introduction of the drug into medicine, and is occupied with some interesting experiments, which show what extremely dilute solutions (1 in 6000) are sufficient to prevent all fermentation and putrefaction; it is in parts II. and III. that the really valuable part of the paper is contained.

Part II.—Thirteen cases of poisoning followed by death are given; in almost all these cases it is interesting to notice that the classical type of mercurial intoxication is not met with; the salivation and intense stomatitis are wanting, and, indeed, in some of the cases, the idea of mercurial poisoning was only thought of at the last moment. In some of the cases slight swelling of the buccal mucous membrane was present, but even here it only showed itself at a late stage. In studying the clinical histories, the two most prominent sets of symptoms are those referable to the large intestines and the kidneys; diarrhoea, rectal tenesmus, colic, and sero-sanguinolent evacuation occurred in almost all the cases, while albuminuria, casts, anuria or greatly diminished secretion of urine, are of frequent occurrence. The nature of the change in the course of the large bowel usually resembled a diphtheritic enteritis, the mucous membrane is necrosed in patches, exudation is found superficially, or in the submucous tissues, the rectum is especially attacked. In some of the cases the kidneys showed changes precisely similar to those produced by Prevost in his experiments on animals; thus the presence of a diffuse, super-acute nephritis is shown, and crystals of sulphate of lime and of oxalate of lime are found in the urinary tubules. At the close of this section of the paper six cases are recorded in which undoubted evidence of mercurial poisoning was present, but in which the course did not go on to a fatal termination. It is noteworthy that in all of these cases stomatitis and salivation were marked symptoms, and the author of the paper, referring to this point, asks, "Is it possible that the establishment of stomatitis with salivation caused the elimination of the poison by this route, and so prevented the task falling on the mucous membrane of the large intestine?" In some of the autopsies made on the fatal cases which occurred in the first group, a careful search for mercury was made in the blood, organs, and secretions, but, as a rule, does not seem to have been successful; possibly the patients lived long enough to eliminate the drug.

Part III.—In this section the author deals with the clinical anatomico-pathological and medico-legal deductions which may be

drawn from the publication, analysis and discussion of the clinical facts; he allows at the outset that there is some difficulty in endeavouring to separate the symptoms caused by the mercurial poisoning from those due to the puerperal state or to traumatic causes. Certainly the digestive apparatus suffers most keenly in fatal cases, as shown by the tenesmus and bloody stools, together with the nausea and vomiting, while the buccal mucous membrane is attacked in inverse ratio to the severity of the intoxication. The circulatory system is always depressed, and the temperature in some cases lowered; erythema of the skin is not infrequent; the nervous system suffers largely as shown by the headache, insomnia and depression which the patients experience. As regards the causation, experience points out that ruptures of the genital tract, retention of portions of the secundines, ulceration, abortions with macerated fœtuses, and previous cachexia, are largely to blame for the onset of poisonous symptoms. Of treatment the author has little to say; it differs in no way from the usual routine followed in cases of mercurialism.

In conclusion Dr. Butte expresses an opinion that good germicide though it is, and sorry as he should be to discountenance its use when carefully handled, yet as soon as an equally good germicide can be found with little if any poisonous quality, so soon will corrosive sublimate cease to be used as a microbicide in the domain of surgery or midwifery.

In private, corrosive sublimate is best confined (in our opinion) to disinfection of the accoucheur's hands. Used in this way it is quite free from risk, and the most powerful of all antiseptics. Injections of sublimate should be reserved for cases in which septic infection has either taken place or is feared, cases, for instance, where the fœtus is putrid or macerated, or where the hand has been introduced into the uterus, especially after the delivery of the placenta, or where it is introduced to remove the placenta. The first injection may be strong (1 in 1000, or 1 in 2000), but subsequent injections may be much weaker.

In lying-in hospitals the risk of septic poisoning is too great to justify the disuse of corrosive sublimate, though its strength should be carefully regulated and its effects watched.

18. The prophylaxis of pendulous abdomen.

In Japan (Baelz, *Centralbl. f. Gyn.*, 1886, No. 25) pendulous abdomen, caused by numerous confinements, is very rare. Baelz ascribes this fact to the prevalent custom of supplying every woman, who has reached the beginning of the second half of pregnancy, with a well-fitting abdominal bandage; this, aided by a small pelvic inclination, prevents the uterus from becoming unduly

inclined forwards. Baelz also recommends the careful application of a binder (with pads, &c.) post partum, to be worn for two weeks. He has never seen a pendulous abdomen follow upon a pregnancy and labour in which all these precautions were taken.

The use of the binder, which is habitual in England, is uncommon in Germany. Germans, who have visited England, have lately expressed their opinion that the better figures of English-women are due to the use of the binder after delivery.

19. The ætiology of puerperal mastitis.

Bumm (*Archiv f. Gyn.*, Bd. xxvii., p. 460) discusses the share played by micro-organisms.

He has met with two kinds of cocci in mammary abscesses which differ partly by microscopical characters, partly by their mode of growth in cultivating media. The staphylococcus pyogenes aureus forms colonies which are at first white, afterwards golden-yellow. The microscopical characters depend on the treatment (*e.g.*, in staining) adopted, sometimes the shape is circular, sometimes like that of a diplococcus. The streptococcus, on the other hand, has some similarity to a chain. Where staphylococci are present, the abscess begins with deep-seated inflammation which gradually spreads to the surface; while abscesses due to the streptococcus usually begin with superficial inflammation, followed by an infiltration of the deeper parts, and suppuration.

Staphylococci grow readily on almost any nutritive soil, but the streptococcus is not so easy to cultivate. It grows best in agar-agar, forming smaller and more delicate colonies than does the staphylococcus.

Hitherto fifteen cases of suppurative mammary abscess have been published in which cocci were discovered. In eleven the staphylococcus pyogenes aureus (or albus) was present; in four the streptococcus pyogenes.

Bumm believes that these cocci directly provoke the phlegmonous inflammation by their growth and proliferation. The abscesses usually arise by abrasions of the cuticle, though the infection occasionally travels up the milk-ducts.

Bumm also searched for bacteria in milk just taken from women. Great differences were found; sometimes one part of the milk examined contained bacteria, another part none. The distance, also, to which bacteria penetrate into the lactiferous ducts varies greatly, but Bumm feels no doubt that pyogenic staphylococci do pass into the interior of the gland by means of the milk-ducts.

He concludes from his observations that the usual belief as to

the danger of allowing milk to stagnate in the mammary glands is well founded.

It is plain that the practical outcome of this investigation is the antiseptic treatment of the nipples, and the avoidance of abrasion as much as possible.

20. How can most air be made to pass in and out of the chest of children born in a state of asphyxia?

Various writers have recently discussed, and sought to establish by experiment, the relative value of Schultze's, of Silvester's, and other methods, for resuscitating children born in a state of asphyxia.

Lahs (*Archiv f. Gyn.*, Bd. xxvi., p. 273) recommends a somewhat different experimental procedure. He thinks that the use of a manometer for deciding between the rival methods is misleading, for it merely indicates the pressure at which the air passes in and out of the chest, while the determination of the quantity of air is of far greater importance. This Lahs attempts to estimate by a modification of Hutchinson's spirometer.

Lahs, moreover, criticises and objects to the methods adopted by Behm and Torggler. These experiments brought their manometer into direct connection with the trachea, thus avoiding the obstacle opposed by the glottis. A better plan, according to him, is to connect the spirometer with the pharynx through the nostrils, so that the natural obstruction offered by the larynx is not interfered with; moreover, the stomach, under these circumstances, can admit some air, as it is known to do during efforts at resuscitation.

Lahs considers the question still unsettled as to which is the best way of expanding the lungs of an asphyxiated new-born babe; but future observations should be made on the above lines, and the result will probably be in favour of Schultze's or Silvester's, to the exclusion of others.

21. On the value of Schultze's swinging movements for resuscitating apparently still-born children.

Skutsch (*Centralbl. f. Gyn.*, May 22, 1886) tested the value of Schultze's swinging movements under the following circumstances:—Vertex presentation; membranes intact. Fœtal movements and heart-sounds heard two hours before rupture of the membranes; after the latter events, the child was rapidly expelled stillborn, but with all the signs of maturity. Percussion of lungs showed impaired resonance everywhere.

Skutsch at once began to swing the child fifty times, according to Schultze's directions. After the fifteenth swing inspiratory and expiratory sounds became audible. Chest again percussed, gave a

resonant note over every portion of the lungs, and a post-mortem showed that every part of the lungs contained a considerable amount of air. Skutsch concludes that Schultze's swinging movements are a satisfactory means of filling collapsed lungs with air.

The dispute on this subject seems somewhat purposeless. The experiments of Champneys in the *Medico-Chirurgical Transactions* (cf. *International Journal*, for April, 1886) have proved that Schultze's method is one of the most efficacious for ventilating the lungs, the sole difficulty being (as in all other manipulative methods) the patency of the upper air passages. This can easily be secured by tying in a catheter in the manner there described.

22. On the elimination of various substances through the milk.

Fehling (*Archiv f. Gyn.*, Bd. xxvii., p. 332) publishes some observations made to determine what drugs or articles of diet, administered to a suckling woman, affect her milk.

Salicylate of soda and iodide of potassium may be detected in large quantities in the milk of women, and pass out, both in their own and in their infants' urine.

Ferrocyanide of potassium passes out in the mother's urine, but not in the child's. Its amount in the milk is very small.

Fehling also made some observations as to the effect of the application of iodoform to perineal lacerations in the mother. He was able to detect the presence of iodine in her milk and urine, and sometimes, but not always, in the child's urine. No harm was ever found to result to the child from the application of iodoform to its own body (*e.g.*, to the navel) or to the mother while suckling it.

When mercury was given to the mother, the effect on her infant varied greatly; but generally none could be detected in the latter.

Fehling also investigated the influence on the child of acids given to the mother. He tried citric, hydrochloric, and acetic acid, but none of them affected the reaction of the mother's milk, or appeared in any way to disturb the child.

Fehling made similar experiments with narcotics. He gave *tr. opii m xxv.* to a series of nursing women; in no case did the child become more sleepy or constipated, or appear less ready to take the breast. Morphia given subcutaneously in the ordinary quantities was also tried. As a rule the child was quite unaffected; in one or two instances it seemed to sleep rather long, but not to a very unusual extent. These experiments show that a mother, who has had a subcutaneous injection of morphia, may nurse her child without any risk of the drug doing it harm.

Chloral was given to the mother in doses of 1·5—3 gram. (gr. 23—46); in no case did it produce any alarming symptoms in the child, though occasionally the latter appeared somewhat more restless or sleepy than usual.

As regards atropine, Fehling found that, when given to the mother, it passed into the infant and dilated its pupils. No harm, however, resulted to the child, even when the mother took large doses.

23. Some remarks on infant feeding.

Dr. Henry Ashby (*The Medical Chronicle*, May, 1886, p. 112). It has been shown by recent researches that cow's milk is about four times as rich in caseine as human milk, while, in human milk, the amount of salts is some three or four times as much, and the amount of sugar is half as much again as in cow's milk. The addition of cow's milk of water and sugar, with the object of approximating its various constituents to those of human milk, must necessarily fail as regards one or more of them. Moreover, the addition to cow's milk of lime water, barley water, or a fluid containing dextrine or some other gelatinous substance, does not, as is generally supposed, prevent the bulky coagulation, provided the fluid be left at rest. On this account Dr. Ashby advocates peptonised milk. This may be readily prepared for infants by pouring 4 ozs. of boiling water on 4 ozs. of milk, adding one-fourth of one of Benger's peptonising powders, two teaspoonfuls of cream, and allowing it to stand for ten or twenty minutes, according to the amount of peptonising desired; then adding a teaspoonful of sugar or milk-sugar, and letting the infant take it at once. Where this form of food is administered, though some curd may appear in the stools, it is always soft, and passed without difficulty.

Another less expensive artificial human milk may be prepared by mixing $\frac{1}{4}$ pint of cream with $\frac{3}{4}$ pint of warm water, and adding $\frac{1}{2}$ oz. of milk-sugar. To this 2 to 10 ozs. or more of milk may be added, according to the age or the infant's capacity for the digestion of curd.

Another artificial human milk may be prepared, according to Meigs's formula, by taking two tablespoonfuls of cream of medium quality, one of milk, two of lime-water, and three of water to which sugar of milk has been added in the proportion of 17 $\frac{3}{4}$ drachms to the pint; which saccharine solution must be kept in a cool place and prepared afresh every day or two. An infant may take half a pint to three pints of this mixture, according to age. In round numbers, this artificial human milk may be said to contain 11 to 12 per cent. of solids, of which 3 or 4 per cent. is fat, 1 per cent. curd, and 6 to 7 per cent. sugar.

Any one of the above forms of food will generally be found to agree well with a healthy infant, or when it is suffering from dyspepsia or intestinal catarrh.

24. Medico-legal importance of hæmatoma of the sterno-mastoid in new-born children.

Küstner (*Centralbl. f. Gyn.*, 1886, No. 25) commends Liman's change of attitude on this question, in admitting that the hæmatoma may arise apart from any maternal assistance, and thinks that his own researches can be brought into complete harmony with it. These have shown that longitudinal traction of the neck cannot give rise to a hæmatoma; but that, if a woman has helped at her own delivery, and thus produced the hæmatoma, the head of the child must either have been sharply twisted on the trunk, or else the muscles must have been bruised by her fingers. These points must be borne in mind in all judicial investigations.

DISEASES OF THE SKIN.

BY MALCOLM MORRIS, F.R.C.S.E.

Surgeon to the Skin Department at St. Mary's Hospital.

1. Erysipelas.

Hofmohl (*Wiener med. Presse*, 1886, No. 11) recommends carbolic acid as the best application for this disease, and employs the following process. The skin is carefully cleaned with soap and water, and afterwards with alcohol. It is then washed with a 5 per cent. carbolic solution, or several layers of gauze-compress steeped in a 3 to 5 per cent. carbolic solution are applied over the erysipelatous part and over the parts around to the extent of a hand's breadth. Over this again is placed a large piece of waterproof sheeting, and the whole is bound together by a linen bandage. The dressing requires to be renewed in twenty-four to forty-eight hours, or as soon as it is dry. Hofmohl does not approve of scarifications or punctures, except when abscesses have formed. For children, or persons with tender skins, a weaker carbolic solution is advisable.

Konetschke (*idem*, No. 12) uses a 10 per cent. solution of carbolic oil rubbed into the diseased and surrounding parts, and when the head is attacked, he keeps the skin and the hair continuously oily. Forenbacher (*idem*, No. 14) uses similarly a solution of carbolic acid in turpentine oil in the proportion of one to four.

Kühnast (*Centralbl. f. Chirurgie*, 1886, No. 9) describes the method adopted by Kraske in his clinique for the treatment of *erysipelas*. Starting with the view that it is always the best plan to lay open and drain any suppurating cavities, he treats *erysipelas* by making a few deep incisions and a large number of fine scarifications, extending into the healthy tissue around, afterwards rubbing in a 5 per cent. carbolic solution and applying pressure by a carbolised pad. He obtained good results in three cases.

Häcker (*St. Petersb. med. Wochenschr.*, 1885, No. 25) has

treated erysipelas successfully by applying a cocaine salve (1 in 5). The pain was much relieved.

Blackader (*Archives of Pediatrics*, April, 1886) recommends white zinc paint as an application for erysipelas, especially when occurring in children. It dries quickly, and can be then covered over with cotton-wool to prevent it being rubbed off.

2. Erythema.

Villemin (*Bullet. de l'Académie de Méd.*, 1886, No. 20) has found that iodide of potassium, in an average dose of 30 grains per day, acts as a specific in polymorphous erythema. It rapidly (in twenty-four to forty-eight hours) modifies the symptoms, and in three to four days no trace of the disease remains.

3. Chronic urticaria.

Vidal (*Journ. de Méd. et de Chir.*, June, 1886) has used successfully the bromo-hydrate of quinine in doses of $7\frac{1}{2}$ to 15 grains. He continues it for fifteen days, when the treatment should then be suspended and resumed again in a few days. Locally, for the itching, he recommends a lotion made of a saturated solution of chloroform in water, the parts to be sprinkled with powdered starch before they are dry.

4. Pruritus in diabetes.

Blanchet (*Gaz. des Hôpitaux*, 1885, p. 868) recommends alkaline sitz-baths, and the application of the following salve:—

Acid. carbol.	...	...	2·0	— 5·0 parts.
Ol. olivar.	...	...	20·0	„
Cretæ alba præpar.	...	...	30·0	„

M. Ft. unguent. To be spread on linen and applied twice a day to the parts affected.

5. Pruritus vulvæ.

Julien (*Journal of Cut. and Ven. Dis.*, 1886, p. 10) gives the following formula:—

R	Zinci oxidi	...	...	gr. vj.
	Acidi salicylic.	...	...	gr. xv.
	Glycerin. amyli	...	...	gr. vj.
	M. S. Apply as needed.			

6. Herpes zoster.

Spaeth (*Wiener med. Blätter*, 1885, No. 52) has used with good effect a 5 per cent. solution of cocaine painted over the affected parts every two hours. A layer of vaseline was applied as soon as the skin was dry.

7. Eczema of the anus and surrounding parts.

Besnier recommends careful washing of the parts with tepid water, and an enema of tepid water after each motion of the bowels. At night a poultice of potato-starch, or linseed meal, should be applied, while cocaine ointment may be used if the

itching is intense. Dietetic treatment must at the same time be prescribed.

Brocq (*Journ. of Cut. and Ven. Dis.*, 1886, p. 245) suggests that great care should be taken to keep the affected parts from contact with each other. During the day he orders the parts to be covered with an ointment of oxide of zinc (30 grains to the ounce), and over this is sprinkled oxide of zinc and subnitrate of bismuth in equal parts, the whole being covered with fine linen. Brocq has sometimes found it necessary to use oil of cade, or nitrate of silver, before improvement took place.

8. Eczema of the scalp.

Lassar recommends (*L'Union Méd.*, 1886, No. 35):—

R	Acid. salicyl.	...	...	gr. xv.
	Tr. Benzoini C.	...	...	gr. xxx.
	Vaselini	...	...	$\frac{3}{4}$ iss. M.

9. Sycosis.

Dr. Armer (*Journal of Cut. Diseases*, 1885, p. 380) has used successfully a 20 per cent. ointment of oleate of copper.

10. Boils.

Hardy (*Gaz. des Hôpitaux*, and *Journal of Cut. and Ven. Diseases*, 1886, p. 96) uses locally poultices of rice, flour, or bread and milk, and repeated bathing; and also maturatives, such as styrax, adhesive plaster, and Vigo's emplastrum hydrarg. He believes that it is of no use to try to abort boils, and does not open them unless they are very sluggish. Internally, he prescribes tar water at meal time, oil of cade, and alkalies with arsenic.

11. Warts.

Vidal (*Journ. de Méd. et de Chir.*, June, 1886) uses:—

R	Acid. salicyl.	...	...	1 part.
	Alcohol 90°	...	...	1 „
	Ether	...	...	2½ parts.
	Collodion	...	...	5 „

M. The solution to be painted on the affected surface each day.

12. Pigmentation.

Preble (*Journ. of Cut. and Ven. Diseases*, 1886, p. 207) reports a case of dark-brown discolouration of the skin after use of the sulphur bath, which was removed instantly by the application of hydrogen peroxide.

Halkins (*Monatshefte f. prakt. Dermatol.*, 1886, p. 433) recommends strong carbolic acid as a treatment for freckles. The skin should be washed and dried, and then, while the skin is stretched with two fingers, a drop of the strong acid should be applied to

each freckle. The part becomes white for a time, but in a few days resumes its usual colour.

13. Keloid.

Brocq (*Journ. of Cutan. and Vener. Dis.*, February, 1886) in treating *keloid* prefers not to remove the mass by the knife, since it soon recurs. He has tried Vidal's treatment by scarification once a week, in the meantime applying mercurial plaster. In one case the treatment removed the keloid, in two others it reduced its size. Scarification, even if not radically successful, causes the keloid to be much less painful. This I can confirm.

14. Baldness.

Bartholow (*Journ. of Cut. Dis.*, 1886, p. 32) advises:—

R	Ext. Pilocarpi fluid.	...	...	...	3j.
	Tinct. cantharidis...	...	...	...	3ss.
	Lin. saponis	...	...	...	3ijss.
	M. To be rubbed into the scalp daily.				

15. Scabies.

Comessati (*Journ. de Méd., and Journ. of Cut. and Vener. Dis.*, 1886, p. 96) suggests the following treatment, which he has found most efficacious. The body is washed at night with the following lotion:—

R	Sodii hyposulphit.	...	...	...	3vj. 3ij.
	Aquæ	...	...	...	O ij.
	Misce. Ft. Lotio.				

And on the next morning another lotion is used having the following formula:—

R	Acid. hydrochlor.	...	...	...	3ij.
	Aquæ	...	...	...	O ij.
	Misce. Ft. Lotio.				

This treatment causes sulphur to be deposited in the pores of the skin in a very finely divided state, while sulphurous acid and chloride of sodium are also formed.

Schwimmer (*Journ. of Cut. and Ven. Dis.*, 1886, p. 223) recommends:—

R	Naphthol	...	...	...	10 parts.
	Chalk	...	...	...	10 "
	Sulph. præcip.	...	...	...	10 "
	Adipis	...	...	...	100 "

16. Ringworm.

Foulis (*Brit. Med. Journ.*, 1886, vol. i., p. 536) recommends that spirits of turpentine should be poured over the affected spots, and well rubbed into the scalp. As soon as smarting is complained of, carbolic soap is applied as a lather, and, when the parts have

been dried, two or three coats of tinct. ferri perchlor. are painted on, while the hair not yet affected is rubbed with carbolic oil (1 in 20).

17. Eczema marginatum.

Funk (*Monatshefte f. prakt. Dermatol.*, 1885, p. 355) has treated this disorder with:—

R	Acid. salicyl.	...	...	...	...	10 parts.
	Ichthyol	...	...	...	...	20 "
	Spir. vini	...	...	...	...	100 "

applied with a camel-hair pencil twice a day, the parts being afterwards powdered.

18. Pityriasis versicolor.

Vigier (*Journ. of Cut. Dis.*, 1885, p. 320) recommends a soap made according to the following formula, and rubbed into the affected parts morning and night:—

Black soap	...	...	...	...	2 lbs.
Pumice-stone	...	...	...	...	$\frac{1}{2}$ "

19. Lupus vulgaris.

Dr. White (American Dermatological Association, Meeting in Greenwich, Conn.) had treated twelve cases of lupus with perchloride of mercury locally, using it as an antiparasitic remedy. His results were not well marked. In the early stages of the disease cure was effected, but, when ulceration and crust formation had taken place, the application was of less avail. He found that for the non-ulcerated forms the sublimate salve was best, while when there was ulceration a watery solution was more efficacious. He used preparations containing 2 to 4 per cent. of hydrarg. perchlor. Salicylic acid, used in a similar way, had given him good results.

Dr. Fox, however, in the same discussion, had not obtained so good results as Dr. White; but he had caused acne nodules to disappear by applying perchloride of mercury.

Bauer (*Wiener med. Presse*, 1885, No. 36) recommends strongly the application of cocaine solutions to *lupus*, before and after all manipulative treatment, in order to allay the pain.

Gerhardt (*Deutsche med. Wochenschr.*, 1885, No. 41) assumes that lupus is produced by the tubercle-bacillus, and that this bacillus develops most in the warm inner organs, and least in the cold skin; therefore the bacilli are not numerous in lupus tissue. On this ground, he argues that the application of cold to spots of lupus will hinder the development of the bacillus and tend to cure the disease. Putting his idea into practice, Gerhardt has

treated four cases of lupus by the application of ice, and believes that they have shown more tendency to healing than could have been found by the other known methods.

Lurtz (*Centralbl. f. klin. Medicin*, 1886, p. 819) finds *lactic acid* the best local application for lupus. He asserts that it destroys the lupous infiltration without destroying the surrounding parts.

Pick (*Vierteljahrsschr. f. Dermat. und Syph.*, 1886, p. 409) has introduced what appears to be a very convenient instrument for those who employ scarification in lupus. It consists of five lancet blades so arranged as to be used at one time, and to make so many cuts at a distance of from $\frac{1}{4}$ to $\frac{1}{2}$ a millimetre apart.

Gärtner and Lustgarten (*Wiener med. Presse*, 1886, No. 24) have treated cases of lupus by electric cautery. The cauterisation lasted ten minutes, and the strength of current used was 2—8 milli-amperes. A chromic acid battery of 24 elements was used. The strength of current was controlled by the help of a galvanometer, and regulated by Gärtner's graphite rheostat. The anode was a fixed electrode of Gärtner's, and the kathode a round silver plate of 2 cm. thickness. It is important that the surface of this electrode should be covered by hard gum, to control its excessively caustic effects. By such an apparatus it is claimed that the diseased parts are cauterised painlessly, and the sound parts left almost unaffected. After the cauterisation the parts are excoriated, swollen, and exude a watery, alkaline fluid; next day they are depressed and covered by a brownish scab, under which healing progresses without suppuration. The resulting cicatrix is somewhat pigmented for a considerable time.

Bruna (*Berl. klin. Wochenschr.*, 1886, No. 30) reports a case of lupus of the cheeks of ten years' duration, which he treated by the galvanic cautery. A fine needle was inserted into the knots of lupus to the depth of 2—3 lines, and connected with an ordinary galvanic cautery. Many sittings were necessary, but the operation was not excessively painful. A cure resulted without any perceptible cicatrix being left.

20. Lupus erythematosus.

Brocq (*Journ. of Cut. and Ven. Dis.*, 1886, p. 256) has used successfully, in cases of erythematous lupus, equal parts of the yellow of a fresh egg and vinegar well beaten up together and applied over the affected surface. Or a paste made of a hard-boiled egg triturated in vinegar may be spread on a piece of flannel, applied every night, and washed off in the morning with black soap.

21. Nævus.

Hardaway (*Journal of Cutan. Diseases*, 1885, p. 308) has

published three cases of nævus which he treated by electrolysis with a single needle. In two of the cases the result was good, in the third of no avail. Dr. White had also used this method successfully.

22. Leukoplakia linguæ.

This has been successfully treated by Joseph (*Deutsche med. Wochenschr.*, 1885, No. 43) and Ingals (*New York Med. Journ.*, July, 1885) by friction with concentrated lactic acid. Ingals has had an excellent result from the use of the galvano-cautery.

Schwimmer (*Wiener med. Wochenschr.*, 1886, No. 8 and 9) has used with good effect a solution of papaine:—

R	Papaine ...	...	0.5 to 1.0 part.
	Aqu. destill.		
	Glycerine	...	aa. 5.00 parts.

The affected parts to be painted two to six times a day with the solution.

23. Lanoline, recommended by Liebreich (*Berl. klin. Wochenschr.*, 1885, No. 47).

Lassar and Patschkowsky (*Berl. klin. Wochenschr.*, 1886, No. 5) speak very highly of the "penetrating" power of lanoline as a basis for ointments, and, using it as a vehicle for various drugs, have found that absorption is much quicker than when other unguents are employed. Liebreich recommends that 20 per cent. of fat be added to it, but this is said to be unnecessary if the lanoline is pure. Köbner (*Berl. klin. Wochenschr.*, 1886, No. 5) finds, however, that certain drugs, chrysarobine, for example, are not so soluble in lanoline as in other fats.

Fox (*Internat. Journ. of Med. Science*, 1886, p. 589) has failed to observe the rapid absorption of corrosive sublimate when combined with lanoline, as described by Liebreich. He believes, too, that when applied to a highly inflamed skin it is not so bland as fresh lard or pure vaseline. Brooke (*Med. Chronicle*, 1886) has not confirmed the rapid absorption of drugs applied in this vehicle.

Liebreich (*Brit. Med. Journ.*, July 17, 1886) recommends lanolin. puriss. without admixture of fat or glycerine.

W. G. Smith (*Brit. Med. Journ.*, June 12, 1886) has obtained excellent results from lanoline as a basis for ointments, and as a non-irritating salve.

The introduction of lanoline is the most important advance in cutaneous therapeutics during the year. In psoriasis, lichen planus, and other dry affections, its rapid absorption is well

marked. I can confirm Dr. Fox's statement that when applied to an acutely inflamed surface it may irritate.

24. Chrysophanic acid.

Stocquart (*Monatshefte f. prakt. Dermatol.*, 1886, p. 1), pursuing his observations on the internal use of chrysophanic acid, finds it of great use in *eczema* and *impetigo* occurring in children. For children of from 3 to 7 years old, he prescribes 1 centigramme (= about $\frac{1}{7}$ of a grain) daily, and this dose may be cautiously increased.

Trousseau (*Annales de Dermatologie*, t. vii., No. 5) has found in Fournier's clinique that patients, suffering from psoriasis and treated locally with chrysophanic acid, frequently show a peculiar form of conjunctivitis, due apparently to absorption of the drug. The eye affection shows itself in 12—14 hours after the application, and usually in both eyes, and consists of blepharospasm, injection of conjunctiva, copious flow of tears, and avoidance of light. The acute stage lasts for 3—4 days, but the injection of the conjunctiva lasts for some days longer. It was "not much" more frequent when the application was made to the face than when other parts were treated.

Stocquart (*Monatsh. f. prakt. Dermatol.*, 1886, p. 286) finds that benzine increases the efficiency of chrysophanic acid, and believes that the following formula will be found as efficacious as a stronger preparation made otherwise :—

R	Acidi chrysophanici	...	...	...	0·1 parts.
	Benzini	...	...	...	0·2 "
	Cerat. simpl.	...	...	...	20·0 "
	M. Ft. ung.				

I have never seen any good results from chrysophanic acid taken internally.

25. Unna's salve-soaps and molline.

Unna (*Monatsh. f. prakt. Dermatol.*, 1886, p. 348) has applied his method of making soaps containing an excess of fat to the medicinal potash soaps, forming what he styles salve-soaps. For this purpose the ordinary potash soap made from oil is too soft, and he, therefore, makes use of Dr. Mielck's soap, which is made from suet, and adds to this 5 per cent. of benzoated suet. This soap can be impregnated with various medicaments and used in three ways. It may be rubbed into the skin as a lather, and this then washed off with water, or the lather may be wiped dry, or again the lather may be allowed to dry on the skin. Unna has used with good effect a mercury salve-soap and a potassium-iodide-salve-soap :—

R	Salve-soap	...	...	...	...	9 parts.
	Pot. iod.	...	...	...	...	1 part.
	Water—a little. M.					

He also recommends an ichthyol-salve-soap having the following formula :—

R	Salve-soap	...	...	...	...	10 parts.
	Ammonium sulpho-ichthyolate from $\frac{1}{2}$ to 5 parts. M.					

This he has used in *intertrigo* (by applying the soap and wiping the part dry) in *boils* and *acne*, regulating the dose according to the irritability of skin, and in what he styles “seborrhœoid” affections from *pityriasis capitis*, and dry *seborrhœa*, to general *seborrhœic eczema*; in these latter disorders it is best to rub the soap well in with a brush for some time and allow the lather to dry. He has used it similarly wherever *ichthyol* is indicated, which will be described below.

A fourth, the ichthyol-tar-salve-soap, has the following formula :—

R	Salve-soap	...	...	...	...	7 parts.
	Oil of cade	...	...	...	...	2 „
	Ammon. sulpho-ichthyolate	...	...	...	...	1 part.
	Misco.					

It corresponds to Wilkinson's soap. This is of use in *sycosis*, and in certain obstinate forms of *eczema*.

Kirsten (*Monatsh. f. prakt. Dermat.*, 1886, p. 337) brings forward a new soap for medicinal purposes bearing the name of *molline*. It is a soft soap which contains about 17 per cent. of fat in excess, and is perfectly free from uncombined alkali.

26. Saponimenta.

In place of medicinal soaps, the so-called *saponimenta* have been recommended for the treatment of various forms of skin diseases. These are made by taking a neutral oleine which has been well purified and dissolving it in spirit. With it are then mixed various drugs, such as tar, ichthyol, naphthol, sulphur, &c., and the mixture applied to the affected part. Letzel (*Deutsche medicin. Zeitung*, 1886, No. 18) has found them to be not advisable in acute cases, but of great service in parasitic diseases and in chronic scaly eruptions in *acne* and especially in affections of hairy regions.

27. Salve-pencils.

Unna (*Monatshefte f. prakt. Dermat.*, April, 1886) has made use of medicaments in skin-diseases applied by means of “salve-pencils” and “paste-pencils.” These, it will be remembered, were recommended last year by Dr. Brooke, of Manchester (see “Year-

Book " for 1885, p. 263) and are a very convenient way of making local applications. In Unna's original paper will be found a number of formulæ for the composition of salve and paste-sticks. These can be obtained, made from Dr. Brooke's formulæ, from Gibbons of Manchester.

28, Sphacelinic acid.

Robert pointed out that the gangrene-producing properties of ergot of rye were contained in an acid which he styled sphacelinic acid. Unna (*Monatsh. f. prakt. Dermatol.*, 1885, p. 406) has experimented with this in various skin affections, and has found that in pure uncomplicated *rosacea* a 5 to 10 per cent. ointment gave very good results, but, when the disease was complicated by *acne*, the effect was much less marked. Unfortunately, however, the supply of the drug is limited, and further observations are desirable.

29. Resorcine and ichthyol in skin affections.

Hehle (*Monatsh. f. prakt. Dermatol.*, 1885, p. 421) has investigated further the therapeutic action of resorcine, which was reviewed in last "Year-Book" (p. 262). He finds it of great use as a dressing for unhealthy wounds, ulcers, &c., in that it reduces the pain and diminishes the lymphangitic and glandular enlargements. It is prone, however, to produce a little eczema of the surrounding skin. Out of thirty-three cases of acute eczema treated by resorcine, in only one case was any good result seen. With chronic eczema the result was better, but uncertain. In parasitic diseases, however, such as *tinea tonsurans* and parasitic syphilis, it is very prompt and acts as a specific—"like mercury in syphilis." In these latter cases, too, it is unnecessary to epilate. In *pityriasis versicolor* and *eczema marginatum* the effects were excellent. Good results were obtained in *alopecia areata*, *seborrhœa* of the head, and especially also in *condylomata*. In syphilitic ulcers, on the other hand, mercurial preparations acted much better. A mild preparation (5 to 10 per cent.) should be used at first, and, if this is borne well, the strength should be increased to 25 to 50 per cent., or even higher; but only pure resorcine should be used.

Boeck (*Monatsh. f. prakt. Dermatol.*, 1886, p. 93) has also used resorcine for *condylomata* with very great effect.

Wyss (*Der Fortschritt*, January 5, 1886) has employed resorcine with great success in eczema, preferably when the congestion and inflammation have passed off and there is still exudation and desiccation with fissures.

Unna, in an article upon "Ichthyol and Resorcine" (*Monatsh. f. prakt. Dermatol.*, May, 1886), gives the results of his studies upon

the action of these two substances in skin affections. He believes that, like pyrogallol and chrysarobine, they act as reducing agents by drawing oxygen from the tissues. In weak strengths they cause thickening of the corneous layers of the skin and pustulation from blocking of the mouths of the follicles by the cornified cells. If this action proceeds to the deeper parts, a narrowing of the blood-vessels is seen, and the skin becomes cooler, paler, and less painful. Both re-agents discolour the skin, resorcine producing a dirty yellow colour, ichthyol a reddish-brown. With greater strength a more rapid effect is the result, pus cells are produced, the corneous layer is undermined and at last thrown off as a continuous membrane. This result, however, takes some time to effect. The subsequent cornification is rapid, and the resulting cicatrix smooth and even.

Pure ichthyol and strong applications of resorcine cause rapid healing of simple wounds without scar. On other raw surfaces they are harmful.

Unna specially recommends ichthyol in *rosacea*. He believes there are two forms of this disease: one of bright red colour, with smooth or scaly skin, and no comedones or acne, which he asserts is benefited by a low strength of ichthyol used as ointment, paste, or soap, or internally; the other consisting of a papular acne with swelling and reddening of surrounding skin, which is remedied by a liberal use of the drug, externally and internally. He also asserts that ichthyol is useful in acne and in eczema, especially when due to parasites, and in "nervous eczema" which affects the extremities mainly, and follows the course of nerve trunks. On the extremities a strong solution should be used, but on the face only 10 per cent. watery solution. In other parasitic affections, too, ichthyol is of great value, used in an ointment of 10 to 50 per cent. In psoriasis, sycosis, and lupus it is of little use. Condylomata and keloid are rapidly removed by ichthyol, while lichen urticatus, urticaria, erythema, and herpes, are relieved by the use of the drug internally.

Resorcine is not so generally useful. It is useful in pityriasis capitis.

Stelwagon, of Philadelphia (*Boston Med. and Surg. Journal*, Sept. 16, 1886, p. 260), has found *resorcine* to be rarely of benefit in eczema, although in an ointment of not higher strength than 6 per cent. it relieved the itching. In tinea sycosis he found it of value when used in 10 to 20 per cent. ointment; but in tinea tonsurans, tinea versicolor, psoriasis, and favus, no reliable result was obtained.

Ichthyol, again, was found to be beneficial in a small number of cases of *rosacea* and acne, in a strength of 10 to 20 per cent.

It was useful in boils, psoriasis, and lupus erythematodes, but in eczema and favus it was without effect.

Gécé (*Gaz. des Hôpitaux*, and *Journal of Cut. and Vener. Dis.*, 1886, p. 191) makes use of *ichthyol* in thin sheets which, when moistened in hot water, can be applied to a diseased part as an adhesive dressing.

30. Iodoform and nitrate of silver as a caustic.

Boeck (*Vierteljahrsschr. f. Dermatol. und Syph.*, 1886, p. 53) recommends as a caustic the combination of iodoform with nitrate of silver. This was first proposed by Malthe, of Christiania, in 1884, and was used in ordinary surgical practice. Boeck has employed it in cases of rodent ulcer, lupus, and soft chancre, and, without speaking very highly of its application, considers that it may prove a useful alternative to other means. It has the disadvantage of causing considerable and lasting pain.

31. White peat powder as a dressing.

Dr. Park (*Pract.*, April, 1886, p. 251) continues a previous article on the use of white peat powder as a surgical dressing. He has found it of use in acute eczema, in osmidrosis, psoriasis, acne, eczema rimosum, and erysipelas. He prefers, however, to combine the application with iodoform. He has had similarly good results from this treatment in ulcers of the legs, and in chronic pharyngitis.

DISEASES OF THE EYE.

BY HENRY POWER, M.B., F.R.C.S.,

Ophthalmic Surgeon to St. Bartholomew's Hospital.

I. Some hitherto unrecognised advantages in cocaine.

Dr. Guaita (*Annali di Ottalmologia del Prof. Quaglino*, 1885, fasc. 6) maintains that cocaine sets aside the disposition to the escape of the vitreous humour which is apt to occur in the operation for the removal of cataract, and especially in that form in which the capsule of the lens is adherent to the iris, and in which, therefore, instruments have to be introduced into the eye. Dr. Guaita has seen a considerable prolapse of the vitreous return under its use, and refers this effect to the atony it occasions in the intrinsic and extrinsic muscles of the eye, and to the diminution of tension of the globe it produces. The hypotony of the bulb it induces offers some indications and contra-indications for its application in the treatment and in the operation for strabismus. It is indicated in the earlier periods of convergent strabismus in hypermetropic patients, where there is excessive contraction of the internal recti muscles, whilst it is contra-indicated in divergent strabismus caused by insufficiency of the internal recti in myopic children. It is, moreover, indicated in cases of readjustment of muscles forwards, because it lowers the motility of the bulb and the energy of the antagonistic muscles during the process of cicatrisation, whilst it is, on the same grounds, contra-indicated in cases where the readjustment is backwards. Cocaine is of great palliative value in certain forms of glaucoma. In contrast to the action of eserine it causes relaxation of the sphincter iridis and of the tensor choroidea; it diminishes the secretion of the aqueous humour, and the pressure of the external muscles upon the globe; it stimulates the iris and the corpus ciliare, and paralyses the functions of the fifth nerve. Its use is, therefore, to be recommended in cases of

secondary glaucoma, which are consequent upon inflammation of the iris and of the ciliary muscle, as well as in cases of hæmorrhagic glaucoma. On the other hand, in ordinary cases of glaucoma caused by interference with the drainage of the aqueous humour from the anterior chamber, and especially in cases of glaucoma acutum, eserine still occupies the foremost place as a palliative. Cocaine is a powerful aid to atropine in the treatment of inflammations of the iris and of the ciliary body. It is valuable also as an addition to the usual treatment of superficial keratitis, in which there is a considerable degree of irritation. Cocaine, by reason of its quieting influence upon the ciliary nerves, is of great service in sympathetic ophthalmia, and may be used in the form of a two to three per cent. solution every two hours. In acute and severe forms of parenchymatous sympathetic irido-cyclitis it, of course, exerts but little beneficial influence. Lastly, it is serviceable in cases of severe wounds of the globe.

2. Action of cocaine.

Dr. Bellarminoff (*Klinische Monatsblätter für Augenheilkunde*, Dec., 1885) concludes from his researches that cocaine causes recession of the punctum proximum in all cases, even in those of high myopia. The dilatation of the pupil it produces never attains the maximum, and allows a slight degree of contractility of the iris to light, and, on convergence of the eyes, to persist. Cocaine is inferior to atropine as a mydriatic, but a mixture of cocaine and atropine is superior to every other mydriatic, and decidedly more effective than atropine alone. In regard to the enlargement of the palpebral fissure which is observed as an effect of the instillation of cocaine, Bellarminoff attributes it, not to the disappearance of ocular reflex actions, but to an active dilatation produced by the stimulation of the great sympathetic nerve which affects the levator palpebræ. He denies that cocaine augments the power of the adductors of the eye.

3. The prophylaxis of the purulent ophthalmia of new-born children.

A discussion took place on this subject in the German Gynæcological Society, which was introduced by Dr. Kaltenbach (*Münch. Med. Woch.*, 1886, No. 26), who observed that the destruction, or at least the power of rendering innocuous the germs of the gonococcus which excite the discharge, may be accomplished in two ways: either by acting on them in the vagina of the mother, or by destroying them after their entrance into the eye of the infant. The attempts that had been made to destroy the gonococci in the vagina by prophylactic and antiseptic washes, though it diminished their activity, had not in his hands been attended with any

striking results. On the other hand, Credé's plan of dropping into the infant's eyes, as soon as born, a drop or two of a two per cent. solution of nitrate of silver had been so effective, that in the German lying-in institutions the proportion of cases of purulent ophthalmia had fallen from 15 per cent. to 0. The view generally accepted, that the infant received the infection in the course of delivery, Kaltenbach was unable to accept, believing that the eyes of the child were sufficiently protected by their closure and by the presence of the vernix caseosa, whilst the escape of the waters practically purified the vagina. He thought that the relations of the father to the child were identical within and without the institutions, but that the greater frequency of the disease in hospitals was due to examinations made by nurses and students, and by the transmission of germs from child to child. He recommended, in addition to the nitrate of silver solutions, the most minute attention to cleanliness. He found corrosive sublimate in very dilute solution as effective as the nitrate of silver. The objection to the use of nitrate of silver drops was that it often established a catarrhal condition which required watching on the part of the surgeon, and prevented its being unconditionally placed in the hands of midwives or parents. The plan he at present adopted was to cleanse the vagina by repeated injections of an extremely dilute solution of corrosive sublimate, and after the birth of the child to wash the eyes of the infant with warm distilled water. The plan was simple, and results were extremely satisfactory.

In the course of the discussion, Olshausen stated that he had found nitrate of silver superior to either corrosive sublimate or carbolic acid, and Credé, to whom the credit is due of having by his suggestions greatly reduced the frequency of the purulent ophthalmia neo-natorum in Germany, stated that he also had used and recommended vaginal injections, not indeed of corrosive sublimate, but of carbolic acid, but without observing that much advantage was derived from them. He had the satisfaction of stating that of the last 1000 cases treated by his method only two children had suffered from purulent ophthalmia, and that these were due to neglect in the mode of application of the nitrate. The solution should be used whenever the slightest tendency to the discharge of pus was observed.

4. The treatment of conjunctivitis diphtheritica and pseudo-membranacea with lime juice.

M. Fieuzal (*Congrès de la Société Française d'Ophthalmologie*, Séance d'Avril 28, 1816; *Progrès Médical*, 15 Mai, 1886) applies a brush dipped in freshly expressed lemon juice to the

part of the lid presenting pseudo-membranes or greyish diphtheroid or diphtheritic infiltration, and allows the juice to remain in contact with the surface for some minutes, then washes the conjunctiva freely with warm water, and finally brushes over the inflamed and swollen conjunctiva with a 2 per cent. solution of silver nitrate. In a discussion which followed the reading of the paper, in which M. Fieuzal advocated this proceeding, M. Teillais stated that he had used, in cases of pseudo-membranous conjunctivitis, the lime juice, and had then with advantage powdered the surface with iodoform. Galezowski, after trying cauterisations and iodoform ointment without benefit, had found the most effective means to be the *olium juniperi empyreumaticum*.

5. The application of sutures in wounds of the sclerotic.

M. Tronchet (Galezowski, *Recueil d'Ophthalmologie*, No. 1, 1886) records the case of a girl who suffered severe injury to the eyelid and to the eye from being struck by the fragments of a glass bottle; a flap of the sclerotic was almost completely detached at the external portion of the left eye; blood and vitreous matter escaped, and the tension of the eye was lost. M. Tronchet brought the edges together with a hair suture in the evening of the same day on which the accident happened. The hairs were removed in the course of ten days, and recovery took place, the eye acquiring its normal tension. M. Tronchet does not state the degree of vision that was retained. At the first meeting of the Ophthalmological Society of the United Kingdom, in November, 1886, Mr. Cross exhibited several cases in which sutures had been applied to serious wounds of the sclerotic, and vision was more or less completely recovered.

6. Experiments on the relative disinfecting power of cocaine, corrosive sublimate, and chlorine water.

Schmidt-Rimplen (*Archiv f. Augenheilk.*, Bd. xv., fasc. iii. et iv.) has made a series of experiments in which pus was inoculated from the lacrymal sac into the cornea, after having been previously placed in contact with solutions of the above-mentioned substances. He thinks that, in order that any positive conclusions should be drawn, the pus should be taken directly from the lacrymal sac, and not the result of culture, for it is impossible to say amongst the numerous microbes that this pus contains, which is the most virulent. The results of his experiments are as follows:—Pus placed in contact with a 4 per cent. solution of cocaine for one, two, or three minutes, is deprived of none of its infectious properties. At the end of ten minutes it is a little less active, but septic inflammations are still occasioned by it. Solution of corrosive sublimate,

having a strength of $\frac{1}{5000}$, does not neutralise the infectious properties of pus in three minutes, but at the expiration of ten minutes' exposure to the action of solutions of this salt, disinfection is certain. The aqua chlori of the German pharmacopœia, which contains 0·4 per cent. of chlorine, produces disinfection of the pus instantaneously. It does not occasion the least irritation of the eye, whilst the prolonged contact of the solution of corrosive sublimate causes inflammation of the conjunctiva in some persons, and excessive secretion of mucus in others. Schmidt-Rimplen employs the aqua chlori in practice, taking care to wash not only the conjunctiva of the lids, but to thoroughly cleanse the oculo-palpebral fold. It may be observed that the aqua chlori should be frequently renewed—at least once a week—and that it should be kept in a coloured bottle in a cool place.

7. The second centenary of operations treated by Dr. Nieden, of Bochum, by the galvano-cautery.

The author (*Archiv f. Augenheilk.*, Bd. xv., fasc. iii. et iv.) continues to be satisfied with this method of treating ulcers and infectious abscesses of the cornea, more especially since the discovery of cocaine has enabled him to apply the cautery with much greater precision. He has so far modified his mode of procedure that, instead of making firm pressure with the ignited point, he prefers to pass it lightly, and to touch the surface frequently. He thus destroys all the suspected parts, employing oblique illumination. The destruction of tissue may penetrate as deeply as the membrane of Descemet, and the point of the instrument may even be allowed to penetrate the anterior chamber; as soon, however, as the aqueous humour escapes, the instrument should be withdrawn. The statistics of Dr. Nieden give 88 per cent. of recoveries with cicatrices, causing no impairment of vision; ten cases occurred in which there was a central leucoma requiring a small iridectomy for optical purposes; whilst the two remaining patients had sclerosis of the cornea, and were not capable of improvement.

8. The advantages of Badal's operation.

Badal's (*Archives d'Ophthalmologie*, t. vi., p. 203, 1886) operation consists in cutting down upon, exposing, seizing, and tearing out the nasal nerve at the point where it appears at the inner part of the eye. Lagrange has made a special dissection of this region, and shows that the distribution of the nasal nerve is not quite in accordance with the statements made in books. He reports a considerable number of cases in which Badal's operation was performed, and considers that it is of service in the following classes of cases:—
In neuralgia of the ophthalmic branch of the fifth nerve, in which

it proves just as serviceable as a similar operation on the frontal nerve. In cases of acute glaucoma, in which it is found that tearing out the nerve always lowers the tension, diminishes the pains that are so characteristic of this affection, and often produces a permanent cure. In chronic glaucoma, the effects are uncertain, and the ultimate results unsatisfactory. In acute ciliary neuralgia, as in traumatic irido-cyclitis and engagement of the iris, the tearing-out of the nasal nerve is an excellent operation. It often enables the enucleation of the eye, which would otherwise be necessary, to be dispensed with. In chronic cases, though less certainly beneficial, the results are sufficiently encouraging to make it advisable to have recourse to this proceeding in every case.

9. Iodol.

This substance, which is of a bright brown colour, has been recommended by Glässner (*Centrabl. f. praktische Augenheilkunde*, 1886, p. 16) as a substitute for iodoform in the treatment of various ophthalmic affections. It is free from the objectionable and highly persistent odour which is characteristic of iodoform, and has the further advantage that it does not, like that remedy, possess poisonous qualities. Dr. Glässner has found it very useful in cases of corneal ulceration and hypopyonkeratitis, though it appears to be a little more irritating than iodoform. It is also serviceable in phlyctenular conjunctivitis and in hypopyonkeratitis. It may be dusted over the ulcers, and may also be used in the form of a salve, made up with vaseline in the proportion of 1 part of iodol to 100 parts of vaseline. It is a useful remedy in effecting the restoration of the cornea to a condition of transparency in cases of nebula. In one case of obstinate iritis serosa, with considerable haziness of the posterior surface of the cornea, the infri-cation of iodol salve soon effected an improvement, both in the aspect of the cornea and in the vision of the patient, though the disease had previously been in a stationary condition for a month. It proves valuable also in the later stages of granular lids, and blepharitis heals rapidly under its action. Dr. Glässner has used it with benefit in several cases of contused and lacerated wounds, the powder being dusted over the part injured.

10. Lanoline in ophthalmic practice.

Dr. Landesberg (*Hirschberg's Centrabl. f. d. Augenheilkunde*, 1886, p. 94) recommends in the strongest terms the use of lanoline as a basis for eye salves, considering it to be superior to every other substance: first, because it is not in the slightest degree irritating to the conjunctiva; and secondly, because it has no tendency to turn rancid. It is rather more consistent than either

cosmoline or vaseline, and consequently does not liquefy so easily as those when introduced into the conjunctival sac. It has the further advantage that it is quickly absorbed, which does not occur with vaseline. Both cosmoline and vaseline, indeed, interfere with absorption, and render it more difficult and slow. Lanoline again readily absorbs water, so that any excess of it can be readily washed away. Many substances can be most thoroughly rubbed down and intimately mixed with it, and it can be absorbed through the skin.

11. The prevention of the occasionally injurious effects of atropine.

In a communication on this subject, Signor Victor de Boitto (*Archives d'Ophthalmologie*, 1886, p. 365) alludes to several cases that have been under his care, in which the use of solutions of atropine, from some idiosyncrasy on the part of the patient, induced severe conjunctival inflammation, and reviews the theories which have been advanced to explain this action. By some it is held to be the direct irritative action of the alkaloid of belladonna upon the mucous membrane and skin; by others, to be the result of the action of microbes which have developed in the solution, from its having been kept too long. M. Glorieux has recently maintained that the paralysis of the muscular coat of the vessels, occasioned by the atropine, is the starting-point of the inflammatory symptoms, but Dr. Boitto points out that in that case the inflammation ought to be proportional to the strength of the atropine solution; and further, that the same phenomena are sometimes seen after the use of eserine, the effects of which on the vessels are precisely opposite. The occurrence of these accidents, Dr. Boitto thinks, may be avoided by having the alkaloid made up in small quantities at a time, each supply being sufficient only for a few days. He recommends the addition of a small quantity of some antiseptic, as corrosive sublimate or boric acid. He might have added one that was suggested some years ago by Dr. Aquila Smith, of Dublin, as a sure and harmless means of preventing the growth of torula in solutions of atropine camphor water. Dr. Boitto further advises that the employment of the alkaloids should not be abused, nor the remedy introduced more frequently than is absolutely necessary. Finally, when intolerance of the conjunctiva begins to show itself, duboisine may be used, which is almost as energetic in its action as atropine.

12. Treatment of severe parenchymatous keratitis.

M. Abadie (*Archives d'Ophthalmologie*, t. vi., p. 363) strongly insists on the advantages to be derived in cases of this kind from the subcutaneous injection of corrosive sublimate in the treatment

of severe interstitial keratitis. Some practitioners still depend upon mercurial ointments, upon iodide of potassium, and upon tonics, which they consider to be as effective and more manageable remedies. He quotes a case in which the progress of a severe keratitis, after having completely destroyed one eye, and seriously compromised the other, was only arrested by injections of the bichloride of mercury, though iodide of potassium and mercurial frictions had been previously employed.

13. Antiseptics in ocular therapeutics.

Dr. Charles Staderini, of Siena (*Bolletino della Società fra i Cultori delle Scienze Mediche*, anno iii., fas. 3), observes that infectious matter should be removed, not only from ulcers of the cornea, which owe their origin to infection, but even from those which are primarily due to some local or general alteration of innervation or of nutrition. These ulcers have been very advantageously treated in the Siena Ophthalmological Hospital, under Dr. Guaita's care, by the use of eserine and antiseptic dressing. The antiseptic substances used were boracic acid in 4 per cent. solution, in the form of spray. The eserine was used in the form of ointment, of the strength of 1 part of eserine to 150 parts of vaseline, and the dressing was impregnated with salicylic acid, in the proportion of 5 parts of the acid to 100 parts of gauze. By this means deep and extensive ulcers were cleaned in a few days, and in many instances no opacity of the cornea was left. Dr. Staderini reports the case of a child who was thus cured of an ulcer affecting the whole inferior segment of the cornea, with hernia of the iris. In ten days recovery was complete. A recurrence took place nine days afterwards, but was suppressed by the prompt application of antiseptic dressing. When the antiseptic treatment was not effective, iodoform ointment, in the proportion of 2 parts of iodoform to 10 parts of vaseline, proved serviceable, the eserine treatment being still continued. Iodoform was found to be extremely useful in all forms of purulent conjunctivitis.

14. Intracapsular injection of distilled water in the extraction of cataract.

Dr. Melreonn (*Recueil d'Ophthalmologie*, 1886, p. 58) makes a small flap of the upper part of the cornea, the incision running along the sclero-corneal junction, and invariably practises iridectomy. Then, after lacerating the capsule and extracting the lens, if any fragments remain, he introduces a syringe spoon he has designed especially for such cases, and injects, gently, distilled water at a temperature of 38° C., moving the instrument slightly, so that the escape of the fragments may be facilitated. He has operated in this manner thirty-nine times. In one case only did the

patient suffer from irido-choroiditis with complete closure of the pupil, but even he had good perception of light. In another case iritis occurred, but improvement followed an iridectomy. In a third case, in which the patient had a syphilitic taint of constitution, severe iritis was arrested by the application of an artificial leech, and the infraction of mercurial ointment. He had no case of suppuration either of the eye or of the cornea, and in no instance did any vitreous humour escape from the use of the syringe. The syringe was employed in two cases of traumatic cataract with advantage, though there had been some escape of the vitreous humour. In some cases adhesions of the iris formed, as is not unusual in ordinary cataract operations, but they occasioned neither pain nor diminution of vision. In twelve cases the cataracts were not mature, and in several the capsule (?cortical substance) was very sticky. All the operations were done without chloroform.

15. Intracapsular injection of antiseptic solutions in the extraction of cataract.

Dr. Wicherkiewicz (*Klinische Monatsblätter für Augenheilkunde*, Nov., 1885), being dissatisfied with the usual methods of removing the cortical substance of the lens, has endeavoured to obtain better results by washing away the remains of the lens and capsule with a solution of some antiseptic substance. With this object in view he has devised a special form of irrigator, consisting of a hollow glass ball with an aperture which can be closed with the finger to regulate the current, and a long neck having a convenient degree of curvation in it, adapted to the end of which is a flattened perforated silver mouthpiece with an opening which permits the fluid to escape drop by drop. Chloroform is necessary for children and excitable patients. In others it is sufficient to instil cocaine. The eye should be dressed with antiseptic dressing. Dr. Wicherkiewicz has used the same instrument in cases of zonular or lanullar cataract. The antiseptic solution employed was boracic acid in the proportion of 1 or 2 per cent. Carbolic acid cannot be used of the same strength with safety, as he had an opportunity of observing in a case where it was accidentally injected instead of the boracic acid, through the mistake of an assistant. Notwithstanding that, the anterior chamber was immediately washed out with distilled water, pan-lacrymion chemosis, and haziness of the membrane of Descemet supervened. The wound healed, but there was some conjunctivitis and chemosis. The ultimate result was $S = \frac{6}{18}$.

16. The treatment of myopia.

Prof. Foerster (*Centralbl. f. die prakt. Augenheilk.*, April, 1886, p. 117), in dealing with this subject at the meeting of the Medical

Society of Breslau, held on the 13th December, 1885, stated his conviction that the elongation of the antero-posterior axis, observed in most cases of myopia, was not due so much to the persistent contraction of the ciliary muscle as to the influence of the two muscoli recti interni. Myopia demands and necessitates strong and enduring convergence, and this again reacts upon and augments the myopia, for with strong convergence the accessory and antagonistic muscles are rendered tense, and the region of the entrance of the optic nerve, being the most yielding, yields to the increased intra-ocular pressure. The cramp of the ciliary muscle, frequently observed in myopia, is due to the fact that the ciliary muscle contracts synergically with the strong convergence that is required. If the myope had nothing farther to do than to strongly converge, the tendency of the ciliary muscle to contract would disappear. Prof. Förster is therefore of opinion that in young people with normal power of accommodation, the whole myopia should be corrected with appropriate concave glasses. He has then observed the far-point recede better even than when the patient is placed under the influence of atropine; weak concave glasses with the bases inwards may be added.

17. Treatment of congenital and paralytic ptosis.

M. Panas (*Archives d'Ophthalmologie*, t. vi., p. 1, Janvier, 1886) suggests the following mode of treatment for this affection. He commences by fixing the eyelid on a plate of horn introduced as far as the oculo-palpebral fold. An assistant presses his hand upon the forehead to prevent the operator from dragging the integument downwards, which would destroy the parallelism of the several layers of tissue of which the eyelids are composed. The operator now makes a curved horizontal incision, with the concavity looking downwards from one commissure to the other, but interrupted in the middle for the space of one-third of an inch. This incision follows the groove which separates the orbital from the tarsal portion of the lid, and which, therefore, corresponds exactly with the spot where the tendon of the levator palpebræ blends with the suspensory ligament. Starting from the inner extremity of the outer incision and the outer end of the inner incision, two vertical and parallel cuts are now made, which extend upwards to the groove which separates the eyelid from the eyebrows close to the orbital margin. Another horizontal cut, two centimetres in length, also with a slight concavity looking downwards, is made, which connects and extends a little beyond the upper extremities of the two vertical incisions. This incision is carried down to the periosteum. The small median flap formed by these cuts is dissected downwards, taking care not to touch

the suspensory ligament of the lid. A third horizontal curved incision, parallel to the other horizontal cuts, is made immediately above the eyebrow, the border of which it follows for the space of three centimetres, and it should extend to the periosteum. The bridge formed between the two horizontal incisions, the one above and the other below the eyebrow, must be detached from the subjacent parts, care being taken not to injure the suspensory ligament. When free, it must be drawn downwards, and made to pass beneath the flap of the eyelid, the fresh and bleeding surface of which is attached to the skin of the forehead and of the divided frontal muscle. Three points of sutures, with fine antiseptic silk, keep the parts in position. As the traction exerted by this median cutaneous flap can cause ectropion, M. Panas inserts two other lateral sutures, which include the suspensory ligament and the conjunctiva, to the exclusion of the skin, and fixes them to the upper lip of the incision made above the eyebrow. The lid will now be found to be raised, whilst the shape of the palpebral fissure remains unchanged. A hypercorrection should exist in the first instance, as experience shows there is a tendency in the lid to fall by degrees. The sutures may be removed on the sixth day.

18. Treatment of double rheumatismal sclero-choroiditis.

Professor Panas (*Recueil d'Ophthalmol.*, 1886, No. 10) records the case of a woman, æt. thirty-four, with good hereditary and personal history, who, without evident cause, began to suffer from double sclero-choroiditis. She was treated with salicylate of soda, milk diet, and sudorifics, without effect. The symptoms became more marked. Pain and redness of both eyes were noted, with neuralgic attacks of pain in the brow and temples. Sharpness of vision was reduced to one-eighth of the normal in the right eye, and to two-thirds in the left. The field of vision was reduced concentrically, and there was a large scotoma in the centre of the field. There were no photopsiæ, nor any diplopia. Salicylate of soda and of lithia caused improvement for a few days, but could not be borne by the stomach. Arsenic, bicarbonate of soda, and potassium iodide, were successively tried without benefit. Inunction of mercury and the administration of lithium salicylate was then commenced, and by degrees the inflammation subsided, and recovery took place. It may be added that injections of pilocarpine solutions were tried, as well as the application of the actual cautery.

19. The treatment of trachoma by expression of the granulations.

Some have recommended (*Archiv f. Augenheilkunde*, Bd. xvi., fasc. iii., 1886) the excision of the conjunctival *cul de sac* in this disease, to which the author reasonably objects that it is apt to cause adhesions which interfere with the movements of the globe, and occasion frequent attacks of conjunctivitis, whilst at the same time it seriously interferes with the personal appearance of the patient. Instead of this proceeding he recommends a plan which he discovered by accident—that, namely, of squeezing out the contents of the granulations. In a case which came under his care, and in which he found it requisite to evert the upper eyelid, cramp of the orbicularis muscle occurred, and he observed that the contents of the trachomatous granulations were pressed out, in the same way that in acne the sebaceous contents of the swelling can be squeezed out, and he assisted the expulsion of the contained material with his thumb. On the following day he observed that an extraordinary improvement had taken place, and recovery resulted in the course of some weeks. Encouraged by this success, he adopted the following plan in other cases which presented themselves. The lid was first everted, the index finger was then pushed into the *cul de sac* of the conjunctiva, with the nail towards the globe of the eye, and the lid was then strongly compressed between the index finger and the thumb until the contents of the granulations were expressed. The lower lid he seizes and compresses with an old-fashioned pair of iron forceps. The proceeding is, he acknowledges, very painful, even when cocaine is used, and some hæmorrhage is apt to occur; but this may be relieved by the application of cold, and improvement is felt on the following day, and recovery soon takes place.

20. Skin-grafting and mucous-membrane grafting.

Dr. Grossmann, of Budapesth (*Archiv f. Augenheilk.*, Bd. xvi., July, 1886), reports two interesting cases in which this proceeding was successfully adopted. In one instance a large portion of the eyelids was removed for an epithelioma. The hæmorrhage was severe, and, whilst it was being controlled by pressure, a flap of skin was removed over the biceps, the dimensions of which were about one-sixth larger than that of the wound. The skin was carefully cleared from fat and connective tissue, but, the hæmorrhage continuing, the graft was laid by in a piece of linen soaked in a 4 per cent. solution of warm boracic acid. The next day the graft looked dead, and was much contracted; it was therefore divided into eight fragments, which were severally applied to the raw surface of the eyelid. The whole were covered with vaseline, and they were kept in position by a little cotton wool and a roller.

Three days later the dressings were removed ; the wound was slightly odorous, but the fragments adhered, and rapid recovery followed. A day or two subsequently the same eye was operated on for cataract successfully. In the second case, which was one of symblepharon, cocaine was freely applied to the bridges attaching the lower lid to the globe, and a portion of mucous membrane from the vagina was inserted into the wound. The result was excellent.

21. Posterior ophthalmotomy in the treatment of deep-seated inflammations of the eye.

This proceeding has been suggested by M. Galezowski (*Recueil d'Ophthalmologie*, 1886, No. 10) and consists in making an incision into the globe of the eye at some point posterior to the ciliary circle. The point of election is usually between the superior and the external rectus. M. Galezowski employs the ordinary narrow knife of v. Graefe, and penetrates the sclerotic about one centimetre behind the ciliary region, and passes the knife through the sclerotic choroid and the retina. Then, according to the effect required to be produced, he allows the wound to close spontaneously or brings the edges of the wound together with the aid of a suture. The conditions in which he thinks the operation is permissible are:—General hæmorrhage of the vitreous, extensive detachments of the retina, hydrophthalmia, simple glaucomatous choroiditis, the presence of foreign bodies in the posterior segment of the eye, and circumscribed tumours of the equatorial portion of the sclerotic. He has performed the operation in sixteen cases, with only one case of failure, and in that case an attempt to remove a cysticercus was followed by abscess of the globe. In the other fifteen cases not the least inflammation followed the operation. The eye was injected and painful during the first three or four days, but as soon as the suture came away the seat of the injury was scarcely visible. Excellent results followed the operation in a case of detached retina. Care should be taken that no injury be done to the ciliary circle, the retina, or the macula.

22. The hygiene of the eye.

The frequency with which myopia or shortsightedness occurs in Germany has led several ophthalmologists to devote much time and attention to its ætiology and treatment, and, though some difference of opinion still exists on many points, there are others of fundamental importance in regard to its development which require to be widely known and should be strongly urged on all those who have the care and education of the young at heart. The part which heredity plays in its occurrence is one

of the moot-points. Some, with Donders, think that it is frequently inherited, and, when inherited, exists in the child at least in the form of a predisposing tendency; others, with Cohn, believe that heredity plays a comparatively small part, since, from inquiries that he made from school children suffering from myopia, he only found about 2·7 per cent. of the parents to be myopic. When the parents are affected, the father seems to be more potent than the mother in transmitting the defect to the offspring in the proportion of 16:12. Cohn looks rather to physical causes acting upon the child during the period of its education. Amongst the more important of them are the degree of illumination, the character of the type and paper, and the nature of the school furniture, including desks, forms, slates, and the like.

The illumination may be considered both as regards daylight and as regards afternoon and evening work. In the investigations made by Cohn in Breslau, he drew up a light table for every school-room, based on the following questions:—How many windows are there on the right and left, in front and behind the pupil? How many windows facing east, west, north, and south? Of what colour are the walls? How high are the opposite houses, and at what distance are they situated? Of what height and width are the windows? Lastly, in what storey is the room? The answers to these questions were, of course, very diverse; but if it were asked how the most favourable conditions in each of these respects could be secured, it may be said, first and broadly, that there can never be too much light in a school-room, that, as Javal maintains, the school must be flooded with light, so that the darkest place in the class may have light enough on a dark day. Hence, to fulfil this condition, the windows should be large and look to the south. Cohn thinks there should be one square foot of glass to every five feet of floor surface. As far as possible the light should fall on all writers of exercises from the left, though light coming from a skylight is excellent. Where neighbouring buildings exist, their distance should be equal to twice their height. Cohn actually found that the narrower the street, the higher the houses opposite to the school-room, and the lower the storey on which the lessons were given, the more numerous were the cases of myopia amongst the elementary scholars. At the same time direct bright sunshine is to be avoided, as exhausting the retinal purple too quickly. For the walls a dark grey is recommended. For more than an hour in the afternoons of several months in the year it is necessary to have recourse to artificial lighting, and this also has been made a subject of

special research. Varrentrapp thinks that there should be one gas flame for every four children, and in this Cohn coincides. Javal thinks there should be one flame for each child. How many of our large English schools could stand by this test? In all cases the flame should be regulated and not flickering, and there should be a shade to each lamp. It is to be hoped that the electric light will soon banish gas from our schools. Cohn estimates that 50 candles, at the distance of one metre, are equivalent to daylight, and artificial light should not descend one-fifth of this amount. In regard to the position to be taken up by the pupil in writing, a recent Commission, to inquire into the subject, has decided that it should be what is termed oblique central, the copybook being opposite the centre of the body, with the lower border slanting upwards from left to right, at an angle of 30° to 40° . The characters of the type and paper used in school books are not unimportant. The type should be clear, of moderate size, with sufficient spaces between the letters, words, and lines. The lines should not be too long, four inches being a reasonable length. The paper should be good, so that the reverse printing does not show through; it should be smooth, without intermixture of straw or rough elements, and either white or faintly yellow. Lastly, great pains should be taken in regard to the structure of the desks and forms. The forms should be detached or dual only, capable of being altered in height to suit the requirements of the pupil. The form should have a back; the seat should be broad and moveable, so that easy egress from the place may be permitted. (Cohn, "Hygiene of the Eye," 1886.)

23. Electricity in ocular therapeutics.

Dr. J. de Salterain (*Recueil d'Ophthalmologie de M. Galezowski*, 1886, p. 544) states that he has employed electricity to a considerable extent in the case of paralysis of the muscles of the eye. He used Gaiffe's pile, with few couples and of feeble tensions. The sittings did not extend beyond a few minutes, and were only repeated every other day. The causes of the paralysis were found to be chiefly constitutional, resulting from syphilis, glycosuria, and rheumatism; in two cases they followed typhoid fever, and in both of these the superior oblique was the muscle affected, whilst the great majority were of cerebral origin, a few only resulting from peripheric causes. Besides cases of paralysis, M. Salterain also tried electricity in those of neuritis, but with apparently not very satisfactory results. He records a case of amblyopia without lesion occurring in a woman, aged twenty-three, who injured her arm in such a manner as to require amputation, after which she was attacked with nervous crises, and on one occasion this

resulted in amaurosis which was so perfect that for a whole year she had no perception of light. No simulation was suspected. Atropine, potassium iodide, and continuous currents were prescribed, and after the second sitting vision suddenly returned and was not again lost.

24. Treatment of simple white atrophy of the papilla with hypodermic injections of the double cyanide of gold and potassium.

M. F. Despagne (*Recueil d'Ophthalmologie*, 1886, p. 548) finds, in a total of nearly 10,000 patients, that the proportion of cases of white atrophy of the optic disc is about 1:90. Its treatment, as he states, is unsatisfactory, and the disease progresses slowly but surely to destruction of the optic nerve and to blindness. Remedies of the most varied kind have been tried with little or no benefit, though religiously taken by the patient. The employment of the double cyanide of potassium and gold by Galezowski has led to a cure in a few, very few, well-marked cases, but to arrest of its progress in several. Despagne, believing that the injection of strychnia into the temples, which he has tried many thousands of times, was practically useless, determined to try the double cyanide, and his results seem to have been encouraging. The strength of the solution employed has been—distilled water, 10 grammes; cyanide of potassium and gold, 20 centigrammes or 1:50.

DISEASES OF THE EAR.

BY GEORGE P. FIELD, M.R.C.S.,

Aural Surgeon to St. Mary's Hospital.

1. Iodol in suppurative ear affections.

Stetter (*Arch. f. Ohrenheilk.*, 1886, p. 264) describes the results he has obtained by treating purulent ear affections with this new drug. The beneficial effects of iodoform in ear suppurations, as in other inflammations, are well known, but its unpleasant smell somewhat prevents its general use. As stated in the section on surgery, this objection has been to a great extent overcome by the production of iodol, which, while being without the peculiar odour of iodoform, seems to have similar antiseptic and other powers. Stetter has tested its effects on ear diseases by first cleansing and drying the ear passages, and then blowing in the drug as a powder. Generally speaking, in acute affections, rapid improvement or cure resulted, but in chronic cases, either no improvement whatever was observed, or when this did take place the results were no better than those obtained by other means. Amongst the cases described by Stetter is one in which the patient complained of pain in the ear after each application of the iodol, but this was the only ill-effect observed.

2. Sublimate in suppurate ear-affections.

Kirchner (*Monatsschr. f. Ohrenheilk.*, 1885, No. 8) recommends in profuse suppuration of the ear the application of so-called "sublimate cord." This is made by dipping soft cord of about 2 mm. thickness in the following mixture :—

Hydrarg. perchlor.	...	...	...	...	...	5 parts.
Sodium chloride	...	...	...	...	...	500 "
Glycerine	...	...	...	...	...	200 "

A sufficient length of the "cord" is placed in the ear, and, according to Kirchner, with good effect.

3. Removal of ossicles.

Dr. Sexton (*Internat. Journ. of Med. Sciences*, Oct., 1886, p. 570) finds that in cases of chronic purulent inflammation of the middle ear, when a portion of the conducting mechanism has been destroyed, the remaining portions tend to prevent free drainage, and he hence removes all these obstructing portions. The membrana flaccida is separated from the edge of the auditory plate, and any portions of the membrana vibrans still adherent to the auditory ring are removed. The tendon of the tensor tympani is divided, and the chorda tympani is cut at its entrance into, and at its exit from, the tympanum. The ossicles are detached and removed, and polypoid masses, granulation tissue, and inflammatory products, are scraped out. Light dressings of boric acid are applied, and also salicylic acid powder.

4. Turpentine in caries of the petrous bone.

Cecchini (*Centralbl. f. Chirurgie*, 1886, p. 2) has used injections of turpentine oil in four cases of caries of the temporal bone. Its application requires care, and the oil of turpentine should be first diluted with almond or olive oil, until it is well borne. The application is made once every three or four days, and, after its use, the ear is washed out with a solution of boracic acid. Although some of the cases had resisted the usual treatment by boracic acid, etc., they rapidly healed when treated by turpentine.

5. Paracentesis of the membrana tympani.

Dr. Lees (*Practitioner*, vol. xxxvii., p. 81) records a case of broncho-pneumonia with otitis where severe cerebral symptoms pointed to a commencing basal meningitis. Mr. Field punctured both membrana tympani, with almost immediate relief of the symptoms, even though no pus flowed forth. Similar symptoms, which recurred, were again removed by a repetition of the operation, but on this occasion the tympanic cavities were inflated by Politzer's method, and a little undoubted pus was expelled from the left ear.

Meningitis from otitis interna in children, is a cause of death frequently overlooked, and paracentesis of the membrana tympani, where retraction of the head and other cerebral symptoms are present, is an operation which, although quite harmless if skilfully conducted, is by no means sufficiently resorted to. Resumption of the normal position of the head and subsequent good recovery are the usual results, if the operation be not too long deferred. Drs. Barlow and Lees, of the Children's Hospital, have sent me several cases where by paracentesis I have at once removed the patient from an apparently moribund to a convalescent state.

McKeown (*Dublin Journ. of Med. Science*, 1886, vol. i., p. 357)

describes a method of making an opening in the membrana tympani, which will remain patent for a considerable time. He punctures the membrane either in front of or behind the top of the handle of the malleus, and cuts upwards as far as possible. Then he makes a second incision at the anterior or posterior part of the membrane, horizontally opposite the lower end of the first incision, and cuts upwards until the two incisions meet. In this way a triangular flap is formed, which falls down, and is commonly retained in position by the coagulated blood. The orifice would in time close, but remains open sufficiently long to produce excellent results upon certain cases of chronic ear-disease.

Hewetson (*British Med. Journal*, 1885, vol. ii., p. 735), following the teaching of Politzer, believes that after healing a perforation in the membrana tympani, a cicatrix may prevent the free movement of the malleus. In two cases he has found that free division of the cicatricial band has materially improved the hearing.

Dr. Bishop, of Chicago (*Journ. of the American Med. Assoc.*, vol. vii., p. 232) has operated on the tympanic membrane in several cases of apparently hopeless deafness. When the loss of hearing was due to a relaxed membrane, he attempted to produce cicatrices, which, by their contraction, might restore the normal tension; where, on the other hand, the loss of hearing was due to a thick unyielding membrane, he attempted to maintain a permanent aperture. In only three out of one hundred operations did suppuration occur, and in these it seemed to do good by keeping open the apertures. He operated on cases more hopeless than those of chronic suppurative inflammation. Indeed, he considers the latter condition, comparatively, very amenable to treatment, and states that he is considering the advisability of establishing such a state in proliferous inflammations of the middle ear. The cases reported in the present paper were nearly all of labyrinthine disease, and were almost hopeless. Nevertheless, after incision of the tympanic membrane, thirteen out of fourteen were more or less benefited, and some of them remarkably so. It is still doubtful how far such improvement may be permanent.

6. Artificial membrana tympani.

Barth (*Arch. f. Ohrenheilk.*, and *Practit.*, April, 1886, p. 299) gives the following method for forming an artificial membrana tympani:—Take a piece of cotton-wool and pull or twist out one end of it to the length of four centimetres, leaving a tuft at the other end. The handle thus made should now be dipped in collodion, and the whole, supported by means of the tuft through the mesh of a cane-seat chair, allowed to dry. In the course of

five or ten minutes the handle, or shaft, should be again twisted, best with moist fingers, and there is then provided a strong shaft of cotton-wool, one to two millimetres thick, with a brush-like tuft, which can be further trimmed by the scissors as required. This artificial membrane is so simple, and so easily made, that every intelligent patient can make it for himself, if he is obliged to wear such an aid for any length of time.

Berthold (*Centralbl. f. Chirurgie*, 1886, p. 525) recommends strongly the use of the membrane of the hen's egg-shell as material for an artificial membrana tympani. He has found, in some cases, an actual organic union of the artificial membrane with the supporting parts, and thus a permanent cure has been effected.

7. Removal of ivory exostosis.

Knapp (*Archives of Otology*, 1885, p. 121) records a case in which, with extreme difficulty, he succeeded in removing totally, an ivory exostosis which completely filled the ear canal. He could make no impression upon the tumour itself, and was obliged to chisel through the surrounding bone. The operation was rendered necessary by the retention of pus, and it was afterwards found that there was a sequestrum in the mastoid process.

For years past it has been my practice to employ the drill for aural exostosis, and I may refer to two papers by me in this year's *British Medical Journal*, "On Removal of Osseous Tumours from the Ear," pp. 338 and 385, where I think I have shown substantial grounds for preferring the dental engine to all other means for the removal of these growths.

8. Operations on the mastoid.

In operations on the mastoid process it is especially desirable that the surgeon should have a complete knowledge of the parts with which he has to deal.

Symington (*Edinburgh Med. Journ.*, October, 1886) draws attention to several points in anatomy which have special reference to treatment. In the infant the mastoid contains one single air cell, communicating by a large opening with the attic of the tympanum. This cell is divided from the cranial cavity merely by a thin piece of bone forming its roof. There is no appreciable difference in size in the cavity, whether the child be an infant or between four and twelve years of age. In suppuration of the antrum, the pus will more easily escape externally in the case of infants than in older children, for the walls of the antrum thicken with age. In adults, on the other hand, there is greater danger of the lateral sinus being involved, because the layer of bone between the anterior and lateral sinuses is converted into air-cells. The air spaces of the mastoid develop at puberty.

Buck (*Internat. Journ. of Med. Sciences*, Oct. 1886, p. 574) states his opinion as to the method best to be adopted in operating on the mastoid. His experience leads him to prefer the drill to the chisel, since the latter requires more time, and is not free from danger, while the results of operating by the chisel are not more favourable than those obtained with the drill.

Löwenberg (*Med. Chron.*, vol. iii., p. 340) strongly objects to trephining the mastoid for suppuration. He advises that the Eustachian tube should be frequently inflated, the tympanic cavity forcibly injected with saturated solution of boracic acid, or weak solution of corrosive sublimate, and that the perforation in the membrana tympani should be enlarged. Vegetations should be destroyed, and antiseptic treatment used.

Prof. Horsley (*Clin. Trans.*, vol. xix., p. 290) relates a case of suppurative inflammation of the ear, where extensive cellulitis of the parts around had come on. This did not yield to free incisions of the soft parts, but the temperature rose to 105° and stupor came on. Mr. Horsley therefore exposed the bone and penetrated into the mastoid antrum with a small trephine drill. He then cut open the mastoid cells, and with a chisel and gouge broke through the bone which lay between the mastoid and the external auditory meatus. The cavity of the antrum and the tympanum were scraped with a sharp spoon and thoroughly syringed out with 1 in 20 carbolic solution. A large drainage-tube was passed through in the groove thus formed, and out at the external auditory meatus. The discharge continued, but was not foul. The patient, however, became more drowsy, and the face and extremities cyanotic. Later on, in the case, there were symptoms of a cardiac, and still later, of a pulmonary embolism, but, under the influence of morphia and Warburg's tincture, complete recovery took place. Mr. Horsley believes that from the inflammation in the ear there had resulted thrombosis of the lateral sinus and embolism into the heart. To prevent embolism in such cases, he suggests that ligature of the jugular vein should be practised.

9. Cocaine in ear-ache.

Hobbs (*Archives of Otology*, 1885, p. 109) points out that it is useless to apply cocaine to the outer side of the tympanic membrane, which is really not a mucous surface, if one wishes to ease pain, the seat of which is in the mucous membrane of the middle ear. By such a procedure the cocaine is not absorbed. Hobbs has, however, obtained good results by blowing a 4 per cent. solution of cocaine through the Eustachian tube.

I referred to this subject in the "Year-Book" for 1885.

10. Brucine.

Brucine has been recommended as a local anæsthetic, in ear affections, by Burnett (*Trans. of Amer. Otolog. Society*, 1885) and by Zeiss (*Therapeut. Gazette*, Jan., 1886). A 5 per cent. solution of brucine, in water, may be applied by means of a pledget of cotton soaked in the solution and pressed into the external meatus. Zeiss considers its effects as more lasting, but less certain, than those of cocaine. He found it specially of use in furuncle of the external meatus, and in suppuration of the middle ear.

11. The abuse of powders in ear-disease.

Schwartz (*Naturforscher-Versammlung zu Berlin*, Sept., 1886; also *Arch. f. Ohrenheilk.*, Bd. xxiv., p. 69) protests against the indiscriminate and careless injection of powders into the external ear. Boracic acid and still more iodoform are, according to him, specially dangerous. They cake in the ear, cause the secretions to be pent up, and serious symptoms not unfrequently appear. Iodoform is especially to be avoided in chronic suppuration of the middle ear and in small and high perforation of the membrana tympani. Powders should be used very carefully, and only in small quantities. This opinion was also endorsed by Trautmann, Gruber, Luca, and Guye.

12. Absolute alcohol in ear-disease.

Schwartz (*ibid.*) also maintained that absolute alcohol was absolutely useless against polypi of the ear. He believed it to be excessively dangerous when injected in suppuration of the auditory passages, for it tended to produce thrombosis and consecutive pyæmia.

13. Gymnastic treatment.

Hommel (*Centralbl. f. med. Wissensch.*, 1886, p. 262) recommends a "gymnastic" treatment of various chronic disorders of the ear by means of pressure on the tragus. If the tragus be pressed inwards into the external meatus, the tympanic membrane is pushed back; while, if the pressure on the tragus be suddenly withdrawn, the membrane resumes its former position. Hommel believes that this forced movement is beneficial, and may, with advantage, be practised in cases of chronic drum-catarrh, perforation of the tympanic membrane, thickening and opacity of the membrane, and also as a prophylactic against the deafness of old age. He prescribes about 120 movements a minute, carried on for one minute or a minute and a half, some four or six times in the day.

14. Luca's pressure-probe in ear-diseases.

Eitelberg (*Archives of Otology*, 1886, p. 36) gives the results of

about thirty cases of ear affections treated by Lucæ's method with the pressure-probe. By this instrument, piston-like movements of the short process of the malleus are effected, which, it is asserted, tend to remove the rigidity of the chain of bones. Eitelberg has found that the pain produced by the operation is very variable, sometimes being insignificant, and at others almost intolerable. The pain seemed to be greater in patients who were robust and well-nourished. Cocaine applied to the drum-membrane had no effect in anæsthetising the parts. The greatest amount of pain was produced when the probe touched the handle of the malleus, for through this part the greatest amount of movement of the ossicles could be produced. As accidents caused by the operation may be mentioned, great hyperæmia of the drum-membrane, ecchymosis, and slight hæmorrhages, but these were of no importance. A permanent good result was rarely seen in chronic catarrhs of the middle ear. In acute inflammation of the tympanic cavity and membrane, the inflammatory signs disappeared under the influence of the pressure-probe. There the effect is simply one of massage. On a few occasions the use of the probe seemed to bring on headache or vertigo, but in most instances these symptoms, if already present, were relieved by the operation. Generally, however, it must be stated, that the effects of the pressure-probe resemble those of massage (an account of which is found in the "Year-Book" for 1884, p. 278), and are equally transitory.

15. Cyst formations in the auricle.

Hartmann (*Archives of Otology*, Sept., 1886) asserts that the so-called hæmatoma auris is very frequently a real cyst formation, because on incision it gives vent, not to blood, but to a transparent viscid fluid. This cannot be the remains of a former blood effusion, because the tumour increases rather than diminishes in size up to the time of puncture, whereas it ought to be somewhat shrivelled if an original blood effusion were being partially absorbed. As distinctions between the two conditions of othæmatoma and cyst, Hartmann gives the following:—Othæmatoma is found in old subjects, commonly after injury, and in insane and weakly subjects, is sudden in onset, is painful, consists of pure blood, and on healing leaves a deformity of the auricle. Cysts, on the other hand, attack robust, middle-aged subjects, are gradual in onset, not painful, consist of serum, and if they heal leave no deformity. As treatment for such cysts, Hartmann recommends incision, drainage, and salicylated cotton dressings.

DISEASES OF THE NOSE AND THROAT.

BY P. McBRIDE, M.D., F.R.C.P.E., F.R.S., EDIN.,

*Surgeon to the Ear and Throat Department of the Royal Infirmary, Edinburgh, and
Lecturer on Diseases of the Ear and Throat, Edinburgh School of Medicine.*

THE year 1885-1886 cannot compete with its immediate predecessors with respect to contributions to the therapeutics of the organs under consideration. It can produce nothing calculated to cause at once the doubt, amazement, and interest excited by Hack's observations on the curability of innumerable neuroses by operative treatment of the nose. Nor is there anything in the past year to compare with the discovery of the valuable properties of cocaine as an anæsthetic. The following pages, however, containing references only to the most important literature bearing upon diseases of the throat and nose, show that workers in this field have not been idle.

TEXT BOOKS AND MONOGRAPHS.

In mentioning the more important text books and monographs we purposely refrain from referring to those which are semi-popular or purely physiological. Even excluding these we have four original works, viz. :—

Lectures on the Diseases of the Nose and Throat, by Sajous (of Philadelphia).

Krankheiten der Nase und ihrer Nebenhöhlen, by Scheff (of Vienna).

Manuel pratique des Maladies des Fosses Nasales et de la Cavité Naso-pharyngienne, by Moure (of Bordeaux).

A Guide to the Examination of the Nose, by Cresswell Baber (of Brighton).

Two annotated translations of recent German works have also appeared, viz. :—

Diseases of the Larynx, by Gottstein. Translated and added to by McBride.

Diseases of the Mouth and Throat, by Schech. Translated and annotated by Blaikie.

Of monographs the most important are the following :—

Die durch anderweitige Erkrankungen bedingten Veränderungen des Rachens, des Kehlkopfes und der Luftröhre (Stuttgart, 1885), by Löri.

Anatomische, pathologische und klinische Studien über Hyperplasie der Rachentonsille, &c. (Berlin, 1886), by Trautmann.

Des Tumeurs Adénoïdes du Pharynx, by Chatelier (Paris, 1886).

Die Krankheiten der Keilbeinhöhle und des Siebbein Labyrinths, &c. by Berger and Tyrman (Wiesbaden, 1886).

GENERAL THERAPEUTICS.

1. Recent additions to the materia medica of laryngology.

J. Colis Cohen (*New York Medical Record*, March 6, 1886) passes in review various new remedies with which he has experimented. As a substitute for the alkaloid he not unfrequently uses a concentrated infusion of coca leaves. Valuable properties are claimed for hydrogen dioxide, which Cohen seems to have used extensively for two years. This drug is "usually furnished by the druggists in what is called 10 volume solution in water—about a 3 per cent. aqueous solution of H_2O_2 ." This is, however, apt to contain a proportion of free hydrochloric acid, so that it should be further diluted with one or two parts of water. As a local application it seems to have both great cleansing and marked stimulating properties. Used as a spray it has the power of softening and detaching pus and crusts. Dr. Cohen, therefore, especially recommends peroxide of hydrogen in two classes of cases, viz., ulceration and ozæna when due to atrophic catarrh. Cohen also speaks highly of the oleates of aconitine (2 per cent.) and of morphia (4 per cent.) in painful affections of the throat. Ethyl iodide—ten minims or more on the sponge of a Yeo's inhaler, which may be worn for an hour or two—he has found useful in syphilis, foetid choryza, laryngeal phthisis, and other similar affections.

2. Aceto-tartarate and aceto-glycerate of aluminium.

It will be remembered by the readers of the "Year-Book" for 1885 that in 1884 Schaeffer recommended these compounds as combining caustic, antiseptic, and astringent properties. Lange (*Monatsschrift für Ohrenheilkunde, &c.*, Oct., 1885) to a great extent confirms Schaeffer's views as to the efficacy of these

preparations. He lays special stress upon the value of the acetoglycerate as an application to laryngeal ulcers, placing it far above iodoform and boracic acid in point of value. In two instances, in which the aceto-tartarate was used in solution for nasal affections, transient loss of smell resulted, which, however, only lasted so long as the application was continued.

3. Cocaine.

No doubt during the year which has just passed cocaine has been much discussed as a therapeutic agent, and has formed the basis of many communications to medical journals. Most of these, however—to state the case broadly—merely confirm our previous knowledge as to this drug, viz., that it produces analgesia and vascular contraction. To this general statement, nevertheless, there are exceptions. **Beschorner** has used the alkaloid by hypodermic injection in cases of asthma and of that obstinate affection known as nervous cough, with excellent results (*Monatsschrift f. Ohrenheilkunde*, &c., Oct., 1885). He gives details of two cases of the former and one of the latter condition, in which he used .04 (or rather more than half a grain) of the salicylate of cocaine for each injection. This treatment does not yet seem to have had an extended trial; but **Mosler** (*Deutsche med. Wochenschr.*, 1886, No. 11, and *Centralblatt f. klin. Med.*, 1886, No. 40), has confirmed **Beschorner's** observations as regards asthma, in which disease he found the hypodermic use of cocaine efficient, both in arresting the paroxysms and in diminishing their frequency.

J. N. Mackenzie, of Baltimore (*New York Med. Journ.*, Oct. 3, 1885), believes that cocaine applied to the pharynx produces isolation of the "temperature sense." After complete analgesia had been produced, the subjects of experiment were still able to distinguish between hot and cold applications. We doubt, however, whether these results are sufficient to prove that the temperature sense can indeed be isolated. Of considerable importance both to the physician and specialist are certain bad results which have been observed to follow the use of cocaine as an anæsthetic.

De Havilland Hall (*Lancet*, Nov. 21, 1885) has recorded a case in which spraying a 10 per cent. solution of cocaine through the nose gave rise to extremely severe laryngeal spasm; so severe indeed that the patient, a neurotic lady, seemed in imminent danger. In perusing the account of this case, the question almost forces itself upon the mind of the reader, whether the spasm ascribed to the action of cocaine was really due to the presence of the alkaloid. In other words, would any other liquid falling into the larynx under precisely similar conditions not have produced similar

symptoms? Several cases of actual poisoning by cocaine have been recently recorded.

Bresgen (*Deutsche med. Wochenschrift*, 1885, No. 46) put a pellet of cotton-wool moistened with from four to six drops of a 20 per cent. solution of cocaine into the nostril of his wife. This proceeding was followed by chilliness and symptoms resembling those caused by an overdose of alcohol, *e.g.*, unsteadiness of gait, exaltation afterwards followed by depression, nausea, diminished intellectual power, difficult articulation, and restlessness, which continued for a whole night.

In the same number of the same journal Heymann records the case of a boy in whom he used large quantities of a 20 per cent. solution in order to facilitate the removal of laryngeal papillomata. Slight giddiness occurred before the operation, but afterwards the patient fell into a peculiar apathetic condition. He lay for five hours on a sofa with his eyes open, answered questions slowly, and was giddy. He did not vomit, but experienced no feeling of hunger. The pupils were normal, and he could read comfortably; neither did he suffer from hallucinations. Next day he was well, but looked pale.

A more serious case has been recorded by Spears (*New York Med. Record*, Nov. 14, 1885), which ought hardly to be mentioned here were it not that cocaine is now so extensively used by those who treat diseases of the throat, that its every danger should be known to them. The case was that of an hospital attendant, much addicted to alcoholic stimulants, who, in the course of twenty hours, administered to himself five grains of cocaine by hypodermic injection, with the result of producing a perfect imitation of opium poisoning. In this connection it is interesting to observe that Ziem has noticed a peculiar susceptibility to cocaine poisoning in alcoholic subjects. In the *Berliner klin. Wochenschr.* (Aug. 30, 1886) Mannheim publishes very minute details of a case of poisoning observed by him; but for particulars we must refer to the original.

4. Substitutes for cocaine.

Gougenheim has experimented with caffeine in order to test its anodyne properties (*Le Progrès Médical*, Oct. 31, 1885). He found it gave some relief in laryngeal phthisis, but was without effect in cancer of the throat.

Rosenberg (*Berliner klin. Wochenschrift*, 1885, No. 48), again (*see* "Year-Book," 1885), recommends menthol in the form of bougies—made with gelatine—as a method of relieving nasal reflex neuroses.

5. Pilocarpine in throat affections.

Woltering (*Monatsschrift f. Ohrenheilk., &c.*, July, 1886) calls attention to the value of subcutaneous injections of pilocarpine in œdema glottidis, and also in laryngeal diphtheria. In the last-named affection his experience has been limited, but the effects of the drug seem to have been remarkable in freeing respiration in two instances, while in a third both pilocarpine and tracheotomy were useless.

6. The local treatment of whooping cough.

Prior (*Berl. klin. Wochenschr.*, 1885, Nos. 44, 45, 46) recommends the application of cocaine in solutions, varying in strength from 10 to 20 per cent., to the larynx in cases of pertussis, and has found that the adoption of this treatment, if regularly applied, shortens the duration of the disease, and diminishes the frequency of the paroxysms in a very remarkable degree.

Michael, of Hamburg (*Deutsche med. Wochenschrift*, 1886, No. 5, and *Centralblatt f. klin. Med.*, 1886, No. 22), seems to consider the phenomena of whooping cough as of the nature of a nasal reflex neurosis, which differs, however, from other reflex conditions in that the nervous symptoms are only set up by the specific stimulus supplied by the disease germ. Michael therefore advises the insufflation of powdered benzoin and muriate of quinine into the anterior nares.

Guerder has, in a number of cases of whooping cough, complicated with choryza, found very marked benefit from the insufflation into the nostrils of a mixture of very finely powdered boric acid and dried coffee (*Brit. Med. Jour.*, July 31, 1886).

7. An unusual cause of cough.

Rice (*New York Med. Record*, May 1, 1886) calls attention to hypertrophy of the papillæ at the base of the tongue as a cause of cough. He considers that this condition does not always produce the symptom in question, but only when the mucosa is sensitive, and when the epiglottis from its shape is apt to be caught in the hypertrophied papillæ. The treatment recommended is destruction of the hypertrophied tissue.

THE PHARYNX AND TONSILS.

8. Is follicular sore throat contagious?

B. Fraenkel (*Berl. klin. Wochenschrift*, 1886, Nos. 17, 18) is of opinion that follicular tonsillitis is a contagious disorder, and therefore recommends that such cases should be isolated. He is, however, not a believer in the views of Jacoby, who maintains that follicular angina in the adult often gives rise to diphtheritic inflammation

in a child exposed to the infection. The question as to whether follicular tonsillitis be contagious is, of course, only admissible here in so far that, if Fraenkel's opinion be correct, such cases ought to be isolated. Certainly the facts and deductions adduced in his paper seem to go far to prove his point.

Seifert (*Wiener med. Wochenschr.*, 1886, No. 40) considers that follicular tonsillitis is distinct and in most cases distinguishable from diphtheria. He believes, with Fraenkel, that it is contagious, especially when occurring in an epidemic form, and that sufferers should, if possible, be isolated.

In a lecture on Diseases of the Throat, which I was privileged to deliver to a number of practitioners in the Edinburgh post-graduate course, I referred briefly to the observations of Fraenkel and Seifert. Afterwards several gentlemen, whose clinical experience had been both varied and extensive, stated that they believed follicular tonsillitis to be an infectious disease, from facts which had come under their immediate notice.

9. Clergyman's sore throat.

Whipham (*Lancet*, Sept. 4, 1886) believes that the frequency of sore throat among the clergy is in great measure due to the habit or necessity of speaking with the chin approximated to the sternum, owing to their being placed so far above their audiences. He concludes his valuable paper with several examples of cures effected by obviating this difficulty to free articulation. As Whipham points out, any one can satisfy himself by reading aloud with the head thrown back, and then gradually approximating the chin to the chest, that the last-named position is most unsuitable for elocutionary effort.

THE LARYNX.

10. Lactic acid as a local application in laryngeal phthisis.

Jellinek (Abstract of a paper read in Vienna. *Centralblatt f. Laryngologie*, 1886, No. 12) gives the results of his experiments with this remedy, first recommended by Krause, of Berlin. According to Jellinek, small, recent, and shallow ulcers yield good results. Soft infiltrations he found readily to disappear under its action. Besides finding lactic acid useful in phthisis he has used it with advantage in granular pharyngitis, atrophic and hypertrophic catarrh. He states that it does not act as a caustic on healthy tissues. In a discussion which followed the paper, of which the above is a brief *résumé*, Schnitzler stated that he had not had such favourable results in his experiments with lactic acid in phthisis laryngea.

Massini, on the other hand (*Bolletino delle Malattie dell'Orrechio*, &c., 1886, No. 3), has used lactic acid as recommended—applying it in various strengths (up to 80 per cent., and even pure)—but has never seen any permanent benefit follow its employment.

Still more recently, Hering (*Annales des Maladies de l'Oreille, du Larynx, etc.*, July, 1886) has recorded very favourable results from lactic acid as a local application in laryngeal phthisis. "Out of twenty observations," he writes, "we may then admit four complete cures, four marked improvements, and six instances in which symptoms were relieved."

11. Intubation of the larynx.

Since his first communication on this subject O'Dwyer has made a more extended trial of his method. The last named—proposed as a substitute for tracheotomy—consists in the introduction of a self-retaining tube through the glottic aperture. The apparatus as now used is figured and described in the *New York Med. Record*, Aug. 8, 1886. In the same journal (April 10, 1886) we have a description of fifteen cases of diphtheritic croup in which intubation of the larynx was performed by Dr. O'Dwyer, instead of tracheotomy. The results seem to have been at least as favourable as could have been expected from tracheotomy.

Northrup (*New York Med. Journ.*, Sept. 18, 1886) describes in great detail eight cases of croup treated by O'Dwyer's method. Four of these recovered, and it is particularly worthy of note that in all four there was diphtheria of the pharynx.

O'Dwyer has not yet used intubation in more than one case of chronic stenosis, but in that instance the result was most satisfactory. "Although," he writes, "I have treated only a single case of stenosis with my laryngeal tubes, I am fully convinced that they will prove infinitely superior to anything yet devised for the relief of this unfortunate class of sufferers. In the use of these tubes tracheotomy is never indicated, and ether rarely. They are inserted through the mouth, and rest solely in the larynx and trachea, the upper end being completely below the epiglottis. They facilitate rather than interfere with respiration, and permit the patient to swallow solids and semi-solids, and, to a certain extent, fluids" (*New York Med. Record*, June 5, 1886). Whether this confident prediction will be fulfilled we cannot know until O'Dwyer's practical revival of an old suggestion has been more extensively tried.

12. Examples of successful endo-laryngeal surgery.

Voltoini (*Monatsschr. f. Ohrenheilk.*, &c., March, 1886) describes a case of a fleshy diaphragm obstructing the lumen of the trachea

—the result of attempted suicide—which he treated successfully by endo-laryngeal operation. He began by passing bougies, then used the galvanic cautery, and finally resorted to electrolysis. The description of the apparatus, used for this last-named proceeding, he reserves for another time.

Labus (*Monatsschrift f. Ohrenheilk.*, April, 1886) records the successful removal, from the trachea, of a papilloma, which was attached at the level of the fifth ring. The instrument used was a specially adapted modification of Schroetter's forceps.

NASO-PHARYNX AND NOSE.

13. New instruments.

Gottstein (*Berl. klin. Wochenschrift*, 1886, No. 2) has suggested a new instrument for removing adenoid vegetations of the naso-pharynx. It differs from Lange's in the position of the fenestrum, and in that the cutting edge is actually used for cutting and not as a scraper.

Löwenberg (*Le Progrès Médical*, May 29, 1886) recommends for the same purpose an instrument having a cutting blade, which is covered on introduction, but can be exposed at will.

It is difficult to form an opinion as to the value of these instruments from a written description, but we think that Woakes' modification of Löwenberg's forceps—if used carefully—assisted, if need be, by the finger-nail, will be found adequate for most cases.

14. The bursa-pharyngea.

Since the publication of Tornwaldt's work on this subject there has been, even in Germany, a marked paucity of literature on the subject, either confirming or denying the accuracy of his views.

Keimer (*Monatsschrift f. Ohrenheilk.*, March and April, 1886), however, has observed a considerable number of cases; presenting obstinate naso-pharyngeal symptoms, cured by treatment directed to the bursa-pharyngea. He in the main confirms Tornwaldt's observations. The galvanic cautery was the method of treatment adopted in most instances; and this was followed by the use of a solution of aceto-tartarate of aluminium, a local application which Keimer considers of great value.

More recently (*Monatsschrift f. Ohrenheilk.*, May, June, July, 1886) **Broich** has also published a record of seven cases, which go far to substantiate the correctness of Tornwaldt's views.

15. Mild measures in the treatment of so-called "nasal and naso-pharyngeal catarrh."

In a paper bearing the above title (*New York Med. Journ.*,

April 3, 1886), read at the annual meeting of the American Laryngological Association, Dr. J. Colis Cohen expressed his views on a very important subject. The title gives an idea of his opinions. He advocates mild measures first, and he often finds them sufficient. Thus, if the nasal passages be too constricted to allow of the proper application of remedies, he endeavours to gain space by the introduction of sponge or laminaria dilators. He warns against promiscuous resort to severe surgical treatment before giving more simple methods a trial. It is remarkable that in the subsequent discussion several speakers agreed with Cohen, that surgical treatment is too much resorted to in this class of cases.

Although we do not say that there is anything new in Cohen's remarks, nor indeed that the subsequent discussion produced anything of novelty, we cannot help remarking how important it is that men, well known in the profession, should, if they see fit, take up a firm position in this matter. That the use of the galvanic cautery and other surgical manipulations in the nasal cavity are often most useful, no one acquainted with the subject would think of denying. What may, however, fairly be called in question is the routine use of operative interference for the cure of an affection which is only grave in proportion to the symptoms it produces. We do not often see bad results from nasal operations recorded, but does it follow that caries and even pyæmia—not to speak of serious hemorrhage—never occur?

16. The treatment of purulent rhinitis.

Ziem believes (*Monatsschrift f. Ohrenheilk.*, Feb., March, April, 1886), and indeed has demonstrated, that in a large number of cases purulent rhinitis—whether foetid or not—is due to disease of the antrum or superior maxillary sinus. He gives a detailed account of twenty-five cases, in all of which this symptom was present. In some cases the antrum was opened on one side only, and in others both cavities were explored. Altogether the operation was performed thirty-seven times, and pus found in twenty-nine instances.

The great importance of Ziem's contribution, however, hinges on the fact that the symptoms which are usually supposed to be indicative of antral disease may be entirely absent, and yet an accumulation of retained pus exist. Thus in not one of his cases was there distension of the superior maxillary bone, and the other symptoms described in text-books were often absent, viz., increased flow of pus from the nose when lying on the opposite side, pain and swelling of the face.

After opening into the antrum this cavity was frequently

washed out, and the results so obtained can only be described as brilliant. Should subsequent investigation confirm the accuracy of Ziem's observations, many now intractable cases of purulent rhinitis will become amenable to comparatively simple treatment. We can only add that this *résumé* is necessarily very incomplete, and that the original paper will well repay careful perusal.

17. Chromic acid as a caustic in nasal affections.

Opinion is still divided on this matter, although since it was pointed out by Hering that the crystals could be fused in a bead on the extremity of a roughened probe, chromic acid has been largely employed as a substitute for the galvanic cautery. To us this plan seems very effective and painless, because any excess of acid can always be readily neutralised by a spray containing bicarbonate of sodium. *Bresgen*, however, thinks otherwise. He only uses chromic acid in contracted nostrils, and then applies it by enveloping the point of a probe with cotton-wool (*Revue mens. de Laryngol.*, Oct., 1885). On the point he then lays some crystals of chromic acid, and again covers the whole with a second layer of cotton-wool. The object of this proceeding is to prevent contact with fluid on its passage through the contracted aperture. When applied for a short time to the required spot the acid is dissolved, and thus the desired end is obtained.

18. Nasal reflex neuroses.

During the past year a considerable number of communications bearing upon this subject have appeared.

Baratoux (*Revue mens. de Laryng.*, Dec., 1885) and *Hering* (*Annales des Maladies de l'Oreille, du Larynx, &c.*, Feb., March, 1886) believe that reflex neuroses are due not so much to the turbinated bodies as to the irritant effect exercised by them or by other diseased conditions on the septum. *Hering*, in his elaborate disquisition, confirms most of the facts observed by *Hack*, and he has, moreover, seen cases of glottic spasm due to nasal disease. In one case he succeeded in aborting one of a series of attacks, having all the symptoms of bronchial asthma, by cauterising the inferior turbinated body with chromic acid.

The most recent contribution to this question is an account by *Hack* (*Deutsche med. Wochenschrift*, No. 25, 1886) of a case of exophthalmic goitre, associated with swelling of the inferior and middle turbinated bodies. The right nostril was first operated on by the galvanic cautery, and on the following day the exophthalmos on the corresponding side had almost disappeared. A similar result followed like treatment applied to the opposite side, and eventually the cardiac and thyroid signs and symptoms were relieved.

As a wholesome antidote to the teaching of those who are

inclined to lay too much stress on nasal disease as a cause of reflex neuroses, we may mention the views of Böcker (*Deutsche med. Wochenschr.*, 1886, Nos, 26, 27) with regard to the relation between nasal disease and asthma. He combats many of Hack's theories and conclusions, and while quite admitting the connection in certain cases, thinks that asthma cannot *generally* be cured by attacking the turbinated bodies. Moreover, he considers that, if the disease in question be produced by irritation in the region of the fifth nerve, this very fact should lead to the suspicion of some morbid condition of the nervous system.

Among English authors Baber (*Pract.*, July, 1886) has written on reflex cough, and in passing suggests that cauterisation of the nasal mucosa may, even if the nose be not the cause of a neurosis, yet by counter-irritation, exercise a beneficial influence on the affection.

This view has been held and expressed by me for some time past. We cannot, I think, deny that a considerable number of cases—especially of asthma and megrim—have been cured by cauterisation of the inferior turbinated bodies. The argument used by those who have recorded them, however, has invariably been that, because the patients were so cured, therefore the neurosis was due to the part cauterised. It may, however, be fairly argued that, if irritation of the nasal mucous membrane can produce a molecular change in a brain area (which would, of course, vary in position with the neurosis produced) such that a nervous explosion results, this fact only shows that an irritant applied to the interior of the nose may lead to a subtle change in a certain centre. If this centre be healthy, to begin with, the change is for the worse. Let us, however, assume that our hypothetical brain area is already unhealthy, or in other words in a condition of unstable equilibrium. It is then conceivable that the application of the galvanic cautery to the nasal mucosa may, for a time at least, restore the unstable part to stability.

If this explanation be correct, we might fairly consider the propriety of using the cautery within the nose for certain nervous affections, such as asthma, megrim, &c., even when no disease of the mucous membrane exists.

It will be seen from a perusal of the preceding pages that our advances in therapeutics have not been striking. There is one subject which some may think should have had attention, viz., the treatment of Hay Fever. Our excuse for not referring to it is that, although various remedies have been proposed within the year, none of the new ones have yet established a claim sufficient to warrant their discussion here.

SUMMARY OF THE THERAPEUTICS OF THE YEAR 1885-86,

CHIEFLY IN REFERENCE TO NEW REMEDIES.

BY WALTER G. SMITH, M.D., UNIV. DUBLIN,

*King's Professor of Materia Medica in the School of Physic, Trinity College, Dublin;
Physician to Sir Patrick Dun's Hospital.*

1. DURING the year which has elapsed (Oct., 1885 to Oct., 1886), a number of new remedies have been proposed for adoption, and novel applications made of older drugs, yet it can scarcely be remembered as a year marked by any special triumph in therapeutics, corresponding, for example, to cocaine. One of the most interesting additions to the resources of external therapeutics, and one which immediately commanded a well-deserved attention, we owe to Dr. Oscar Liebreich for the introduction of lanoline.

2. The chief directions, in which activity has been manifested, fall on the lines of antipyretics, antiseptics, and agents acting upon the nervous system (hypnotics, &c.). It is proposed in this article to notice the leading facts brought to light in connection with these topics, as well as a few other subjects which may prove to possess a more than ephemeral interest. The proposal by the Pharmaceutical Society to establish a pharmaceutical research laboratory is highly to be commended, and it has a direct bearing upon therapeutics, inasmuch as every increase in our knowledge of the composition and active constituents of drugs is reflected in a more intelligent and more precise use of them in practice.

ANTIPYRETICS.

3. In a sentence or two M. Dujardin-Beaumetz sums up the results of a large and extended practical experience of antithermic medication in reference to the newer remedies.

He points out that resorcine possesses such powerful toxic

properties, and is such an irritating medicament, that it is unsuitable for internal administration—a conclusion amply confirmed by investigators in this country. Kairine he thinks dangerous, because it produces its antithermic effects by destroying the hemoglobin and profoundly altering the constitution of the blood—conditions to be especially avoided in infectious febrile diseases. Antipyrine is toxic in action, but less so than resorcine; it has little effect upon the blood or circulation, and is undoubtedly a valuable remedy.

The experience of other observers leads to somewhat similar conclusions, and kairine is likely to disappear from practice. No medicinal antipyretic, as yet known, is free from risk, and the untoward effects which have been traced to antipyrine were noticed in the "Year-Book" for 1885 (p. 303).

Until we understand better the theory of fever we cannot handle antipyretic drugs so satisfactorily as we desire. We must distinguish between fever and its pathogenic agent, for an antipyretic may not act upon this agent, and so may have an independent, and, therefore, transitory action (antipyrine, thalline), or it may also influence this agent, as quinine appears to do in some cases. Notwithstanding the limitations of our knowledge as to the essential nature of fever, all will agree that an extreme degree of fever, with or without complications, is dangerous, and must be controlled.

Maragliano epitomises the matter briefly as follows:—Antipyretic treatment is necessary; 1. When the temperature exceeds 39·5 (103° Fahr.); 2. When the fever is of long duration; 3. When there are complications; 4. According to individual conditions. In addition to the direct subtraction of heat by cold applications, we may, with due caution, have recourse to antipyretic remedies. Quinine is often to be preferred, because of its undoubted action on some infective principles. Among the derivatives of chinoline, thalline is the best, because with parity of dose it has a greater though less enduring antithermic action. The dose ought to be a quarter less than that of kairine and antipyrine, and hence it can be given more often, and it is useful in fevers of short duration. (*London Medical Record*, April.)

4. Dr. W. H. Day believes that *antipyrine* is a remedy of decided value whenever the temperature is disposed to run high in the febrile affections of children, as in pneumonia, typhoid fever, and exanthemata. In these diseases, antipyrine almost invariably reduces the temperature very quickly, sometimes as much as three or four degrees in a few hours, but it soon rises again. Sweating was not invariably produced; where it was, the fall was more

rapid and decided. No purging or ill consequences followed the administration of the drug in the cases that came under his notice. (*Brit. Med. Journ.*, Oct. 2, 1886.)

Yet in the same journal Dr. Fairland reports a case of typhoid fever in which very alarming symptoms of prostration followed the administration of 30 grains of antipyrine.

5. Dr. Janssen has tested the value of sulphate of thalline in the military hospital at Helder. The average dose given was 1 gramme. In regard to antipyretic treatment, thalline should be preferred in those cases only where the temperature attains such a height as to endanger life, and even then he is of opinion that cold baths are better. If, however, circumstances exclude the use of cold baths, thalline is of great service, acting quickly, and producing no dangerous symptoms. There is no injurious effect on the kidneys, and he has found thalline of great service in phthisis, as very small doses control the fever. (*Brit. Med. Journ.*, Mar. 27, 1886.)

6. A new antipyretic has been introduced by Drs. Cahn and Happ, under the name of *antifebrine*. It is known to chemists as acetanilide or phenylacetamide (C_6H_5 , C_2H_3O , HN), and is a white crystalline powder, almost insoluble in cold water, and freely soluble in alcohol. It is neutral to test-paper and has a slightly burning taste. It is remarkable as the first indifferent body with antipyretic properties, previously-known antipyretics being either phenols (salicylic acid, hydrochinon, resorcin) or bases belonging to the chinoline series (kairine, thalline, antipyrine, quinine). Experiments on dogs or guinea-pigs showed that antifebrine is non-poisonous in comparatively large doses. Observations in Professor Kussmaul's clinic on various febrile conditions indicate that, notwithstanding its insolubility, the drug is four times stronger than antipyrine. Dose, 0.25 to 1 grm. in water, or in wafers, or mixed with wine. Its action commences within an hour of its administration, reaches its maximum in four hours, and in a period of three to ten hours the temperature is reduced to normal, and remains so for six or eight hours. This effect can be obtained from a single dose. The reduction of temperature is accompanied with redness of skin and moderate perspiration; pulse lower in rate and increased in tension. Antifebrine appears to agree well with the intestinal tract, and is not liable to cause rigors. Moreover, it is cheap, costing only thirty marks per kilogramme (Kalle & Co., Biebrich-am-Rhein).

The dose should not exceed 30 grains in twenty-four hours, and must be regulated according to the age and condition of the individual.

ANTISEPTICS.

7. *Iodol*.—The great value of iodoform is fully admitted, and its only drawback is its powerful and penetrating odour. A new claimant now presents itself, which is stated to possess properties analogous to those of iodoform, while, moreover, it is free from odour and from toxic effects. It was discovered in 1885 by Ciamician and Silber, and is a combination of iodine and pyrrol (tetraiodopyrrol, C_4I_4NH), containing 85 per cent. of iodine. It is a yellowish brown compound, crystallising in fine prisms, almost odourless and devoid of taste; soluble in 5,000 parts of water; readily soluble in alcohol, ether, glacial acetic acid, and fats. Under the influence of light it is gradually decomposed, or by a heat of 140–150° C. Mazzoni, Wolff, and Schmidt have reported favourably of its action and of its uses in surgical practice, and Marcus (*Berliner klin. Wochenschr.*, 1886, No. 21) now contributes some observations upon its mode of action. Comparing iodol with iodoform, Marcus has determined the fatal doses (for rabbits) of each to be respectively: iodol, 1·097–1·666 gm. per kilogram of body-weight, and of iodoform 0·835–1·013 per kilogram. Iodoform, therefore, is more poisonous in conformity with its higher proportion of iodine (nearly 8 per cent. more) than iodol. Iodol is excreted by the kidneys, and exercises no injurious effects upon the organism. Modes of application (Schmidt).

(a) Powder, same as iodoform. It does not form crusts with the secretions from wounds.

(b) Solution of 1 part in 16 parts alcohol, and 34 parts of glycerine.

(c) Iodol gauze.

Dr. Trousseau has tested the value of iodol in ophthalmic surgery, and concludes that it may replace iodoform in ocular treatment. It was especially efficacious in phlyctenular ophthalmia and sluggish ulcers of the cornea.

A mixture of iodol and menthol is recommended for neuralgia; 4 parts of menthol and 1 part of iodol are rubbed together until a homogeneous mass is produced. A little camphor is added, if necessary, to reduce its hardness.

8. *Aseptol*.—A short reference to this compound was given in "Year-Book" for 1885, p. 305.

M. Serrant (*Comptes Rendus*) prefers to name it sozolic acid ($\sigma\omega\zeta\omega$, "I preserve") to avoid the erroneous inference from the termination in "ol" that it is of a phenol character, and to indicate that it has the properties of a well-defined acid. In his opinion it exceeds salicylic acid in antiseptic power, but Vergelin's

experiments with a 1 per cent. solution do not confirm this. (*London Med. Rec.*, Nov. 1885.)

Hueppe (*Berliner klin. Wochenschr.*, 1886, No. 37), however, finds it an efficient germicide in 3-10 per cent. solution, and thinks it deserving of further trial.

9. *Salol* is the name of a new compound prepared by **Professor Nencki**, which is said to possess powerful antipyretic and antiseptic properties, and to be capable of advantageously replacing sodium salicylate in cases where that salt is badly tolerated. *Salol* is a derivative of salicylic acid, in which one atom of hydrogen is replaced by the phenol group. It occurs as a white powder, having a faintly aromatic odour, and, as it is almost insoluble in water, is perfectly tasteless. In the organism it splits up into its two components, and inasmuch as the decomposition appears to be effected by the pancreas, and, probably, first takes place in the duodenum and not in the stomach, Nencki thus explains how it is that its administration is not followed by disagreeable after-effects. The dose is about the same as that of sodium salicylate, and as much as 4 grammes daily may be given. The urine after its administration becomes very dark, almost black, as after the injection of carbolic acid, of which *salol* contains 3·8 per cent. No toxic symptoms, however, are produced, probably because the phenol passes through the stomach in combination and is not absorbed. (*Pharm. Journ.*, May.)

In connection with salicylic acid may be mentioned a paper by **Aufrecht** (*Berliner klin. Wochenschr.*, No. 10, 1886), who extols the efficacy of the treatment of pleuritis and empyema by salicylic acid in gramme doses, up to 5-6 grammes a day, for two or three days. The amount is then reduced. **Aufrecht** believes that this treatment materially reduces the duration of the disease, and often secures a rapid recovery.

NEUROTIC REMEDIES.

Two new hypnotics have been lately proposed as substitutes for chloral, the desideratum being to obtain a non-chlorinated compound with efficient hypnotic powers, and free from depressing action on the heart.

10. *Urethane*.—For this interesting compound we are indebted to the experimental investigations of **Professor Schmiedeberg**. It occurs in white crystals, which are freely soluble in water; it has no odour,* and no disagreeable taste. Chemically, it is the

* Some English-made urethane has an offensive smell, like acetamide (*Leech*).

ethereal salt of carbamic acid, and its formula, $C_2H_5NH_2CO_2$. The observations of von Jaksch, who is enthusiastic in its praise, were noticed in "Year-Book" for 1885, p. 306. Dr. Saundby has used it successfully in cases of cardiac insomnia, and Dr. Myrtle, from an experience of over fifty cases, speaks very highly of it as a sedative and hypnotic. It is of especial value with patients who cannot take the ordinary opiates, and it does not interfere with the action of the bowels or kidneys. It gives rise to no unpleasant effects, such as nausea or headache, and 15 grains may be administered, dissolved in water, with some flavouring agent. (*Brit. Med. Journ.*, Feb. 20.) Stricker confirms von Jaksch's praise of this drug, but gives larger doses, 2—4 grammes, in syrup. (*Deutsche med. Wochenschr.*, 1885, No. 48.) Kräpelin's experience is likewise favourable, and ten to fifteen minutes after taking a dose of it, a quiet sleep comes on, which lasts for several hours. It is not a hypnotic of great energy, and, in cases of intense excitement, is of little value, and has no effect in relieving pain. Dose, 1—3 grammes. (*Neurolog. Centralbl.*, March.)

In the absence of bad effects, it has an advantage over chloral and the bromides, and, in its freedom from unpleasant taste and smell, over paraldehyde, which it greatly excels as a hypnotic. (*Med. Chronicle*.) Messrs. Mairet and Combemale, from their observations of the action of urethane in cases of mental disturbance, consider that the indications for its use lie within narrow, but precise, limits, and that, although its hypnotic properties are not so pronounced as those of certain other medicines, its harmlessness, and the fact that it is sometimes effective where others fail, or cannot be supported, give it, in some cases, a real advantage. (*Comptes Rendus*, cii., p. 827.)

11. *Hypnone* we owe to the observations of Dr. Dujardin-Beaumetz. This compound belongs to the aromatic series, and its chemical name is aceto-phenone, $C_6H_5COCH_3$. It is a colourless, mobile, and volatile liquid, with an odour recalling that of oil of bitter almonds, or cherry-laurel water. It is not soluble in water, but is soluble in alcohol, ether, and chloroform. It has a very decided physiological action, for $\frac{1}{2}$ —1 cc. injected subcutaneously into guinea-pigs produced a torpid, comatose condition, followed by the death of the animal five to six hours after the injection. To procure sleep, it should be given in doses of from 2—16 minims, the latter amount, according to Dujardin-Beaumetz, inducing four to six hours of refreshing sleep. It may be administered with alcohol and syrup, flavoured, or, better, in capsules. It communicates to the breath a disagreeable odour, due to its elimination by the respiratory organs. In the organism,

hypnone is oxidised into carbonic acid and benzoic acid, and is, finally, passed out in the urine as hippuric acid. (*Popoff; Nencki.*) Dr. Dujardin-Beaumetz's observations have been confirmed by Dr. Constantin Paul and by Dr. Huchard, and M. Bardet remarks that the best effects from hypnone are observed in excited conditions of the brain, and especially in alcoholic subjects. (*Nouveaux Remèdes*, Janv.)

12. *Cocaine*.—The sphere of usefulness of cocaine hydrochlorate continues to be extended, innumerable applications of its properties are announced, and it runs some risk of being overwhelmed with praise.

Abundant illustrations of its special uses will be found in the present and preceding volumes of the "Year-Book," but it is well not to overlook the fact that it may be powerful for evil as well as for good. Numerous instances have now been recorded in which the use of cocaine has been followed by local ill-effects on the eye; these may be divided into two classes, viz., suppurative panophthalmitis, and lesions of the cornea. An interesting article upon this subject may be consulted in *Brit. Med. Journ.*, Aug. 7. A few cases have also been reported in which unpleasant symptoms have followed the internal use of cocaine. (Smidt; Rank.) Thus, after subcutaneous injection of 2 centigrammes of hydrochlorate of cocaine, Blumenthal observed increased reflex excitability, muscular trembling, slight mydriasis, and a feeling of dizziness. Heymann, wishing to operate upon recurrent extensive papillomata in the larynx of a healthy boy, aged nine and a half years, brushed out the fauces and larynx with 5 grammes of a 20 per cent. solution (i.e., 1 grm. muriate of cocaine). The operation was scarcely finished, when the boy began to reel off the seat, and, when removed to a sofa, lay in an apathetic somnolent condition for about five hours. Pupils were not dilated, and reacted well to light. Cornea and skin were normally sensitive to stimuli. Pulse, respiration and temperature slightly raised. He could read and answer questions with some difficulty, but could not walk except with assistance. Next morning he awoke quite well. (*Berliner klin. Wochenschr.*, No. 48, 1885.) Another case where dangerous effects followed the use of cocaine is related by Dr. De Havilland Hall in *Lancet*, Nov. 21, 1885.

It is plain, then, that caution should be exercised in the general use of cocaine, and its action upon some persons, in moderate doses, is alarming. A good paper, by Dr. Brown, on the effects of cocaine on the central nervous system, may be found in *Med. and Surg. Rep.*, Jan. 30, 1886. Erlenmeyer (*Wiener med. Blätter*, 1886) has observed a group of nervous symptoms in

thirteen persons who had recourse to the use of cocaine to help them to free themselves from morphia-habit (morphiomania). The result was that some of them became addicted to cocaine as well as to morphine, while others merely exchanged the one form of indulgence for the other. Insomnia is one of the first signs of cocaine intoxication (cocaine-mania), and presently psychical troubles appear—hallucinations of sight and loss of memory, with mental weakness. Another curious symptom Erlenmeyer specially noted was the prolixity of the patients in their conversation and correspondence. The treatment he recommends is seclusion in a private asylum for four or six months. (*Rev. des Sci. Méd.*, Oct., 1886.)

13. *Scopoleine*.—This alkaloid has been recommended by **Pierd'houy** as superior in its mydriatic power to atropine. It is obtained from *Scopolia Japonica*, which is used in Japan as belladonna is in Europe. The alkaloid is not to be confounded with the glucoside scopolin, which possesses narcotic, but no mydriatic properties. Scopoleine acts sooner upon the eye than atropine, and the pupil very speedily returns to the normal state. (*Prov. Med. Journ.*, Nov., 1886.)

14. *Hyosine*, discovered by **Ladenburg**, has been investigated by **Drs. F. and J. Haynes**, of Philadelphia. The dose administered varied from $\frac{1}{20}$ to $\frac{1}{300}$ gr., and it is best given in the form of the hydrobromate. **Dr. H. C. Wood** claims to have shown that to this alkaloid are due the characteristic hypnotic and calmative actions of henbane. The effects seem to vary considerably, according to the susceptibility of the patient, and **Dr. Root** recommends that the usual dose should not be greater than $\frac{1}{400}$ gr. except in cases of acute mania. (*Prov. Med. Journ.*, Nov.)

Our space will permit of but a brief notice of a few other subjects of practical interest.

15. *Substitutes for digitalis*.—(a) *Strophanthus*. At the Brighton Meeting of the British Medical Association, **Dr. Thomas Fraser** read a valuable paper upon the action of the digitalis group of remedies, with special reference to strophanthus (hispidus?) N.O. Apocynaceæ, a plant used in Africa as an arrow poison. From the seeds **Dr. Fraser** has separated a crystalline glucoside, strophanthine. The drug acts upon the heart distinctly and powerfully, increases its systole and slows its contractions. The author records several cases in which he has administered this drug with signal success. (*Brit. Med. Journ.*, Nov., 1885.) In a later number of the same journal, Jan., 1886, **Dr. Porteous** gives notes of three cases of cardiac disease treated with small doses of strophanthus, 3 minims of the tincture to begin with.

The author considers it a valuable drug for controlling the heart's action, but it is not suitable for every patient.

(b) *Adonis*.—The use of *Adonis vernalis* is not new in medicine, but it has only recently been studied scientifically. Its action resembles that of digitalis, but, according to *Cervello*, it is not cumulative in action, nor does it ever irritate the stomach. The dose is from 2—5 grammes of the infusion in 150 grammes of water. (*Lond. Med. Rec.*, Dec., 1885.) *Durand* confirms these statements, and gives the dose of the active principle, adonidine, as 2 centigrammes ($\frac{1}{3}$ grain.) (*Lond. Med. Rec.*, March, 1886.)

(c) *Sparteine*, a volatile base discovered by Stenhouse in the common broom, is a colourless liquid, heavier than water. An examination of the physiological properties of the sulphate of sparteine has lately been made by M. Germain Sée and Dr. Laborde, who have published the results obtained by them in a paper read before the Paris Academy of Sciences (*Comptes Rendus*, ci., p. 1046). From this communication it appears that sulphate of sparteine has a marked tonic action on the heart, more prompt and more lasting than that of digitalis or convallamarine, that it restores the rhythm of the heart's action better than any known remedy, and that it resembles belladonna in accelerating the heartbeats in weak and atonic conditions of the heart. The salt has been given in the dose of 0.10 gramme, dissolved in water. It does not appear to have any injurious action on the digestion or on the nervous system generally. (*Pharm. Journ.*, Dec. 26, 1885.)

16. *Lanoline*.—This new basis for ointments continues to attract attention, and has come into extended use. It is a cholesterine fat, obtained from sheep's wool. Its special advantage is its power of penetration into the skin, hence it is very serviceable for *massage*, for promoting the absorption of drugs, and for correcting dryness and harshness of the skin. As a fat it is, moreover, remarkable that it will take up its own weight of water. We owe its introduction to Dr. Oscar Liebreich, and his papers upon it are in *Brit. Med. Journ.*, Jan. 16 and Feb. 13, 1886. Many other observers (*Lassar, Doyon, &c.*) agree in recognising its value, and there is little doubt of its securing a permanent place in the *materia medica*. The reporter has used lanoline fat in more than seventy cases of cutaneous diseases, and thinks favourably of it as a vehicle. For chapped hands lanoline is an extremely satisfactory application, often effecting a cure with one inunction. (*Brit. Med. Journ.*, June 12, 1886.)

17. *Saccharine*.—By this name is understood a coal-tar derivative, discovered by *Fahlberg*, and which far exceeds (about 230

times) cane sugar in sweetness. It passes unchanged through the organism, and exclusively into the urine, and seems to exert no injurious effects upon man, even in large doses, 2—5 grammes. Therapeutically it is recommended as a substitute for sugar, and is indicated in diabetes and obesity. The bitter taste of quinine is masked by the addition of a small quantity of saccharine. (*Pharm. Journ.*, April, 1886 ; *Med. Chron.*, vol. iv., p. 52.)

18. *Substitute for senega.*—Senega is dear, has a bad taste, and is not well borne by the stomach in many cases. Dr. Kobert finds that the bark of quillaia saponaria contains the same active principles as senega and in five times the amount, and recommends it on the following grounds:—1. It is better borne than senega. 2. The remedy is gladly taken, even by children, on account of its sweet taste. 3. Its power as an expectorant is beyond question. A decoction of the strength of 5 in 200 was used—half an ounce for adults, a teaspoonful for children. (*Med. Chronicle*, vol. iii., from *Centralbl. für klin. Med.*, 1885, No. 30.) Goldschmidt fully confirms Kobert's conclusions, and points out that quillaia is a sure, cheap, and not disagreeable expectorant. (*Aertzl. Intelligenzbl.*, 1885.)

INDEX TO AUTHORS QUOTED.

- Abadie, 257.
 Adamkiewicz, 35.
 Adams, 75, 151.
 Allbutt, 17.
 Anderegg, 134.
 Andrassy, 115.
 Angyan, 84.
 Annandale, 91, 140,
 159, 169.
 Anyel, 53.
 Armer, 241.
 Ashby, 95, 96, 237.
 Atkinson, 158.
 Aubert, 182.
 Aufrecht, 32, 289.
 Aveling, 196.
 Baber, 274, 284.
 Badals, 255.
 Baelz, 233.
 Baker, 142.
 Ballance, 142.
 Baratoux, 283.
 Bardet, 30, 291.
 Barker, 126, 130, 140.
 Barling, 146.
 Barlow, Thomas, 156.
 Barlow, W. H., 99.
 Barth, 269.
 Bartholow, 153, 242.
 Barwell, 11, 12.
 Bauer, 242.
 Bäumlér, 81.
 Bedoin, 114.
 Bellarminoff, 252.
 Bergeon, 30.
 Berger, 275.
 Berthold, 270.
 Beschorner, 276.
 Besnier, 240.
 Bety, 115.
 Beyer, 110.
 Bidentkap, 178.
 Biermer, 82.
 Billington, 212.
 Birt, 123.
 Bishop, 269.
 Blackader, 240.
 Blackie, 275.
 Blac, 16.
 Blanchet, 240.
 Bloebaum, 107.
 Blondel, 84.
 Bloxham, 181.
 Blumenthal, 291.
 Bocker, 284.
 Bockhart, 41, 180,
 183.
 Boeck, 183, 248, 250.
 Boeckel, 118.
 Boitto, 257.
 Boldt, 212.
 Bond, 96.
 Bouchard, 103.
 Bouilly, 132.
 Braithwaite, 53, 96.
 Bramwell, 138.
 Branthome, 33.
 Brennecke, 192.
 Bresgen, 277, 283.
 Bristowe, 14.
 Broadbent, 2, 17.
 Brocq, 241, 242, 244.
 Broich, 281.
 Brooke, 245.
 Brown, 291.
 Brown, Buckmester,
 152.
 Brown, Dillon, 109.
 Browning, 44.
 Bruce, 8, 38.
 Bruna, 244.
 Brunner, 138.
 Brunton, 106.
 Bryant, 12, 128, 137.
 Buchanan, 118.
 Buck, 271.
 Buigli, 26.
 Bullar, 55.
 Bumm, 234.
 Burnett, 272.
 Butlin, 142.
 Butte, 231.
 Cadge, 167.
 Cahn, 102, 287.
 Caillé, 57.
 Campana, 184.
 Casper, 184.
 Castex, 125.
 Cayley, 11, 141.
 Cecchini, 116, 136,
 268.
 Cervello, 293.
 Champneys, 236.
 Châtard, 224.
 Châtelier, 275.
 Cheadle, 42, 100, 130,
 156.
 Cheltoff, 50.
 Chiara, 83.
 Churton, 9.
 Clarke, 142, 170.
 Cochran, 40.
 Coghill, 28.
 Cohen, 275, 282.
 Cohn, 187.
 Collier, 148.
 Combemale, 291.
 Comessati, 242.
 Cornil, 30.
 Corning, 8.
 Costa, Da, 47, 67.
 Credé, 253.
 Cripps, 136.
 Croly, 161.
 Cross, 254.
 Davies, 98.
 Davis, 64.
 Day, 97, 101, 186.
 Debove, 43.
 Delafield, 48.
 Delorme, 137.
 Dempsey, 141.
 Dennis, 130.
 Denuce, 131.
 Desnos, 51.
 Despagne, 266.
 Diderich, 97.
 Dieulafoy, 61.
 Dohrn, 206.
 Doleris, 218.
 Dollinger, 154, 163.
 Donat, 189.
 Doyon, 293.
 Dreschfeld, 26.
 Dubois, 81, 218.
 Dujardin-Beaumetz,
 37, 54, 285, 290.
 Duncan, J., 91.
 Duncan, Matthews,
 223.
 Duncan, W. A., 191.
 Durand, 293.
 Duret, 91.
 Eccles, 110.
 Edmunds, 142.
 Edwards, 171.
 Eitelberg, 272.
 Ellis, 148.
 Emmet, 197.
 Engelmann, 108, 217.
 English, 130.
 Erlenmeyer, 291.
 Eyton-Jones, 13.
 Fahlberg, 293.
 Fairland, 287.
 Fehling, 223, 236.
 Fellner, 222.
 Fenwick, 172.
 Ferrari, 144.
 Field, 268.
 Fienzal, 253.
 Finkler, 66, 107, 108.
 Fischer, 127.
 Foerster, 259.
 Forenbacher, 239.
 Foulis, 173, 201, 242.
 Fournier, 73, 105,
 106.
 Fox, 245.
 Fränkel, 218, 278.
 Frankenberg, 110.
 Franks, 114, 161.
 Fränzel, 30.
 Fraser, 292.
 Freudenberg, 224,
 225.
 Freund, 201, 227.
 Fruehwald, 99.
 Fubini, 91.
 Funk, 243.
 Gaillet, 83.
 Gairdner, 9.
 Galewski, 254, 263.
 Garden, 150.
 Gartner, 244.
 Gécé, 250.
 Gempt, 49.
 Gerhardt, 243.
 Glässner, 256.
 Glorieux, 257.
 Godlee, 33, 123, 127.
 Golzi, 119.
 Gottstein, 275, 281.
 Gotze, 104.
 Gougenheim, 27, 277.
 Gould, 11.
 Grandin, 211.
 Green, King, 1.
 Green, W. E., 47.
 Grigorovitch, 23.
 Grimm, 72.
 Grinevitski, 72.
 Grossman, 262.

- Guaita, 251.
 Guerder, 99, 278.
- Hack, 283.
 Hacker, 239.
 Halkins, 241.
 Hall, 129, 276, 291.
 Halsey, 37, 75.
 Hamilton, 110.
 Happ, 287.
 Hardaway, 244.
 Hardie, 138.
 Hardy, 241.
 Hare, 84.
 Harrington, 86, 87.
 Harris, R. P., 198.
 Harris, Vincent, 21.
 Harrison, 144.
 Hart, 205.
 Hartmann, 273.
 Hasenclever, 54.
 Haynes, F., 292.
 Haynes, G., 292.
 Heath, 143.
 Heinicke, 139.
 Heller, 83.
 Hennequin, 140.
 Henoch, 107.
 Hepp, 102.
 Hering, 280, 283.
 Herman, 199.
 Hewetson, 269.
 Hewitt, 198.
 Heymann, 277, 291.
 Hirschfelder, 122.
 Hobbs, 271.
 Hoedmaker, 27.
 Hoffmann, 65, 140.
 Hofmohl, 107, 117.
 Holden, 65.
 Holmes, 12.
 Holt, 99.
 Hommel, 272.
 Horsley, 121, 271.
 Houzel, 187.
 Howlett, 172.
 Huchard, 6, 44, 291.
 Hueppe, 289.
 Hulke, 11, 12, 123.
 Hutchinson, 22, 114.
 Hutchinson, Jon.,
 13, 130, 145, 178.
 Hutchinson, J.,
 Jun., 140.
 Hutchison, 129.
- Ihle, 248.
 Illingworth, 108.
 Iloway, 130.
 Imlach, 205.
 Immermann, 73, 82.
 Ingals, 245.
 Israel, 33, 110, 128.
- Jaccoud, 77.
 Jackson, 124.
 Jacob, 145.
 Jacobson, 123.
 Jacoby, 278.
- Jacobowitsch, 97,
 110.
 Jaksch, von, 8, 36,
 290.
 Jameson, 142.
 Janssen, 287.
 Jaworski, 50.
 Jannel, 128, 217.
 Jellinek, 279.
 Jendrassik, 66.
 Jennings, 91, 180.
 Jones, C. N. Dixon,
 41.
 Jones, S., 138.
 Joseph, 245.
 Julien, 240.
- Kaltenbach, 252.
 Kassowitz, 96.
 Keegan, 168.
 Keen, 118.
 Keetley, 135, 142.
 Keller, 226.
 Kelsey, 135.
 Keyes, 174, 182.
 King, 141.
 Kirchner, 267.
 Kirmisson, 143.
 Kirsten, 247.
 Klein, 93.
 Klomjakoff, 70.
 Knapp, 270.
 Köbel, 143.
 Kobert, 248.
 Köbner, 245.
 Konetschke, 239.
 Koppe, 199.
 Korn, 191.
 Kortum, 89.
 Kramer, 106.
 Kräpelin, 37, 290.
 Kraus, 95.
 Krülein, 57, 124.
 Krukenberg, 197.
 Krull, 51.
 Kühnast, 239.
 Kurl-off, 29.
 Küstner, 238.
 Kwiencinski, 129.
- Laborde, 5.
 Labus, 281.
 Ladenburg, 292.
 Lagrange, 255.
 Lals, 235.
 Lancereaux, 112.
 Landerer, 89, 117.
 Landesberg, 256.
 Landouze, 105.
 Lange, 118.
 Lannelongue, 137.
 Lardier, 41.
 Laschewitch, 7, 44.
 Lassar, 184, 241, 245,
 293.
 Latham, 65.
 Lazarus, 60.
 Lees, 268.
 Le Fort, 140.
 Legris, 5.
- Leichtenstern, 81.
 Leuhartz, 70.
 Lentovsky, 58.
 Leoche, 110.
 Leopold, 191.
 Lépine, 90.
 Letzel, 247.
 Lewaschew, 51.
 Leyden, 41, 45, 47.
 Liebreich, 245, 285,
 292.
 Lindemann, 140, 157.
 Litten, 31.
 Littlewood, 141.
 Lloyd, 157.
 Locke, 66.
 Loeb, 72.
 Lör, 275.
 Löwenberg, 271, 281.
 Lublinski, 20.
 Lucas-Champou-
 nière, 136, 139, 144.
 Lucas, Clement, 157.
 Lücke, 113.
 Lurtz, 244.
 Lustgarten, 244.
 Lütz, 81.
 Lwoff, 225.
- MacCormac, 127, 159,
 175.
 Macewen, 134.
 Mackenzie, 276.
 Maclaren, 123, 127,
 128.
 Maero, 50.
 Maguire, 61.
 Maher, 123.
 Malcolm, 114.
 Manassein, 42.
 Maret, 290.
 Mann, 39.
 Mannheim, 277.
 Maragliano, 286.
 Marcus, 288.
 Markoe, 125.
 Marshall, 149.
 Massini, 280.
 Mathieu, 74.
 May, 140.
 Maydl, 86.
 Mayer, 51, 81.
 Mayes, 37.
 Maylard, 114.
 Mays, 40.
 Mazzoni, 183, 288.
 McBride, 275.
 McKeown, 268.
 McNeill, 41.
 Melreonn, 258.
 Mercer, 108.
 Meredith, 130.
 Mering, 66.
 Meshel, 50.
 Michael, 99, 275.
 Michaelis, 54.
 Mickie, 55.
 Milkulicz, 57, 125,
 130.
 Millard, 54, 90.
- Moncorvo, 19, 97, 99.
 Monin, 47.
 Monti, 95.
 Morton, 97.
 Mosler, 19, 85, 276.
 Moure, 274.
 Moullin, 143.
 Müller, 63, 81.
 Mundé, 213.
 Murrell, 22, 50.
 Musser, 54.
 Myrtle, 37, 290.
- Nagel, 195.
 Napier, 131.
 Naumann, 130.
 Neff, 21.
 Nencki, 71, 289.
 Neumann, 70.
 Newman, 126.
 Nicolaysen, 139.
 Nieden, 255.
 Nikolaus, 135.
 Northrup, 109.
 Nunes, 19.
- Obiol, 99.
 O'Dwyer, 109, 280.
 Oertel, 52.
 Oliver, 68.
 Olshausen, 253.
 Ormerod, 19.
 Ott, 69, 85.
 Owen, 100, 162.
- Packard, 161.
 Panas, 260, 261.
 Park, 250.
 Parker, Rushton,
 135.
 Parker, R. W., 150,
 158.
 Parkes, 131.
 Parlinoff, 110.
 Parsons, 178.
 Parzewski, 42.
 Paschkis, 51.
 Paton, 68.
 Patschkowsky, 245.
 Paul, 11, 291.
 Pécholier, 104.
 Penrose, 67.
 Peterson, 168.
 Petzone, 73.
 Peyrot, 144.
 Philipowicz, 85.
 Phillips, 14.
 Pick, 244.
 Pierd-houy, 292.
 Pilcher, 139.
 Pitts, 159.
 Playfair, 44.
 Plowright, 170.
 Pluyette, 126.
 Popoff, 42.
 Porteous, 292.
 Post, 194.
 Potailon, 119.
 Pott, 97, 99.
 Poulet, 132, 133.

- Powell, 20, 28.
 P. wer, 98.
 Preble, 241.
 Prior, 278.
 Purdy, 59.
 Purser, 50.
- Quinke, 82.
- Ralfe, 6.
 Raphael, 179.
 Reäl, 101.
 Reclus, 132.
 Reichel, 129.
 Reihlen, 110.
 Reimer, 109.
 Reni, 81.
 Renze, de, 103.
 Reverdin, 136.
 Reyher, 81.
 Rice, 278.
 Richardson, 43.
 Richelot, 126.
 Riegel, 46, 47.
 Rieu, 22.
 Ringer, 19.
 Rinne, 163.
 Riva, 27.
 Rivington, 125.
 Robin, 52, 103.
 Robinson, 152.
 Robson, 118, 132, 138.
 Roher, 55.
 Rodriguez, 63.
 Rook, 89.
 Root, 192.
 Rosenberg, 277.
 Rothe, 114.
 Roullière, 55.
 Roussel, 90.
 Rüneberg, 82.
- Saboa, 141.
 Sahli, 71.
 Sajous, 274.
 Salterain, de, 265.
 Sanas, 261.
 Sands, 138.
 Sanger, 222, 228, 230.
 Sansom, 1, 3, 4, 7, 15.
- Saundby, 7, 28, 60, 64, 290.
 Schäfer, 72.
 Schatz, 164, 200, 222.
 Schech, 275.
 Scheff, 274.
 Schmidt, 216, 288.
 Schmidt - Rimplen, 254.
 Schmiedeberg, 289.
 Schmitz, 159.
 Schnee, 66.
 Schuitzer, 279.
 Schoffer, 108.
 Schott, 15.
 Schroeder, 215.
 Schüller, 76.
 Schütz, 181.
 Schwartz, 207.
 Schwartz, 272.
 Schwimmer, 242, 245.
 Scott, 198.
 Sée, 5, 20, 22, 53.
 Seifert, 86, 279.
 Serraut, 288.
 Sexton, 268.
 Shank, 54.
 Silcock, 14.
 Sinclair, 163.
 Skutsch, 635.
 Smith, 79.
 Smith, A. H., 67.
 Smith, Aquila, 257.
 Smith, Johnson, 129.
 Smith, Lewis, 109.
 Smith, Noble, 153.
 Smith, Shingleton, 26.
 Smith, Stephen, 136.
 Smith, T., 142.
 Smith, T. C., 54.
 Smith, Walter, 42.
 Smith, W. G., 245.
 Snysers, 81, 110.
 Sokoloff, 105.
 Solonoff, 106.
 Sommer, 36.
 Southam, 135, 145.
 Spaeth, 240.
 Spears, 277.
 Spender, 75, 77.
 Spengler, 23.
- Spofforth, 143.
 Stadelmann, 64.
 Staderini, 258.
 Staffel, 152, 153.
 Steavenson, 76, 170.
 Steel, 6.
 Steffen, 97.
 Stelwagon, 249.
 Stetter, 267.
 Stocquart, 246.
 Stoker, 160, 161.
 Stokes, 161.
 Stokvis, 58, 65, 83.
 Stricker, 290.
 Stroynowski, 227.
 Studensky, 130.
 Stukovenkoff, 182.
 Sturges, Octavius, 100.
 Sturges, Russell, 100.
 Swiecicki, von, 190.
 Symington, 270.
 Székács, 4.
- Tait, 116, 131, 191, 204, 212.
 Teale, 135.
 Teillais, 254.
 Tenneson, 43.
 Terrier, 132.
 Thiersch, 56.
 Thiriar, 131.
 Thompson, 62.
 Thornton, 131, 195.
 Tolwinski, von, 42.
 Torres, 55.
 Trautmann, 275.
 Trélat, 125.
 Treves, 126, 138.
 Tronchet, 254.
 Trouseau, 246, 288.
 Trubatcheff, 59.
 Truchart, 144.
 Turner, 138.
 Tyrman, 275.
- Umball, 110.
 Unna, 246, 247, 248.
- Vanlair, 144.
 Verchère, 115.
- Vergelin, 288.
 Verneuil, 135, 143, 145, 150.
 Vidal, 240, 241.
 Visier, 243.
 Villemain, 240.
 Villiers, 63.
 Voff, L., 70.
 Voltolini, 280.
 Vulpian, 72.
- Wagner, 35, 55.
 Walters, 154.
 Ward, 135.
 Warner, 222.
 Warren, 141.
 Waxham, 127, 165.
 Weber, 31.
 Weir, 129.
 Welt, 110.
 West, 6, 14, 22, 23, 68.
 Wheelhouse, 135.
 Whipham, 279.
 White, 27, 43, 243, 245.
 Whitehead, 136.
 Wicherkiewicz, 259.
 Wichmann, 110.
 Wiegandt, 110.
 Wiener, 230.
 Wiesman, 123.
 Wilhelmy, 49.
 Wilks, 14.
 Wille, 22.
 Williams, 24, 127.
 Wilson, 177.
 Wilson, J. C., 9.
 Wising, 131.
 Wolff, 288.
 Woltering, 278.
 Wood, H. C., 292.
 Wood, J., 133.
 Woods, 155.
 Wyss, 248.
- Yeo, 106.
- Zeiss, 272.
 Ziegler, 103.
 Ziem, 277, 282.

INDEX TO SUBJECTS.

	PAGE		PAGE
Abdomen, pendulous, The prophylaxis of	233	Apomorphia in diphtheria	108
Abdominal sections	128, 155	Arsenic in Hodgkin's disease	84
Abscess, Chronic	115, 145	—, Subcutaneous injections of, in chorea	99
—, Chronic, of female urethra	199	Arsenical bronzing	100
—, Hip-joint	162	Arteries, Ligature of	141
—, Pelvic	163	Arthritis, Rheumatoid	75
Aceto-glycerate of aluminium... ..	275	Artificial membrana tympani	269
Aceto-tartarate of aluminium	275	Ascites, Permanent drainage in	57
Acid, Acetic, in diphtheria	108	Aseptol	238
Acids in fevers	108	Asphyxia in new-born children	235
Adenoid vegetations, New methods of removing	281	Asthma, Iodide of potassium in	19
Adonis	293	—, Lobelia in	19
Air, Cold inhalations of, in typhoid fever	105	—, Pyridine in	20
Albuminuria	58	—, Salicylate of cocaine in	19
Alcohol, Absolute, in ear-disease	272	Atrophy of the papilla, Hypodermic injections of the double cyanide of gold and potassium in	266
Alcoholism, Acute	41	Atropine, Prevention of the occasionally injurious effects of	257
—, Kola nut in	42	Auricle, Cyst formations in the	273
—, Strychnia in	41		
Aluminium, Aceto-tartarate and aceto-glycerate of	275	Badal's operation, Advantages of	255
Ammoniacal urine	63	Baldness	242
Amputation at knee-joint	137	Belladonna with iodide of potassium in syphilis	182
Anæmia, Pernicious	80	Benzoic acid in typhoid state	103
Anæsthetics	145	Bismuth, Large doses of, in typhoid fever	104
Analgesics, local, Brucine and theine	40	Bladder drainage by post-prostatic operation	172
—, —, Cocaine as	41	—, Ulcers of female	200
—, —, Cresol group as	40	Blood, Transfusion of	90
Anchylostomum duodenale	81	—, Use of, in anæmia	86
Aneurysm	141, 142	Boils	241
—, Arterio-venous, of neck	126	Bone-drainage in hip-disease	160
—, treated by a new combination	12	Bothriocephalus latus	81
Angina pectoris, Cocaine in	7, 44	Brain, Operations on the	121
—, —, Iodide of sodium in	6, 44	Bromine, Arseniate of, in diabetes	64
Antifebrine	287	— in diphtheria... ..	106
— in fevers	102, 111	Bronchiectasis treated by paracentesis	24
Antipyretics	285	Bronchitis, chronic, Terpene in	22
— in childhood, General remarks on	92	Bronzing, Arsenical	100
Antipyrine	97, 286	Brucine in ear-afections	272
— in fevers	110	Bursa patellæ, Enlargement of	137
— in rheumatic fever	70	— pharyngea	281
Antiseptic fumigations in diphtheria	108		
— inhalations	28	Cæsarian section, Improvement in	238
— treatment of typhoid fever	106	—, —, Simplification of	230
Antiseptics	288	Caffeine in mitral disease	4
— in ocular therapeutics	258	—, substitute for cocaine	277
Aorta, Aneurysm of	9	Calculi prevented by salt	170
—, —, Treatment of, by electrolysis	9	—, Vulvo-vaginal	198
Aperients, Saline, in typhoid fever	106		
Apocymum canabium, Diuretic action of... ..	67		

	PAGE		PAGE
Calomel as a diuretic	66	Conjunctivitis, Lime juice in ...	253
Capsicum in gastro-intestinal affec- tions	55	Convallaria in mitral disease ...	3
Carbolic acid in erysipelas	239	Corrosive sublimate as an antiseptic in midwifery	231
— and turpentine oil in ery- sipelas	239	— in laparotomy	214
— oil in erysipelas	239	Cough, Paroxysmal	21
Cardiac neuroses dependent on uterine disease	212	—, Unusual cause of	278
Caries of the petrous bone, Turpen- tine in	268	Cramming in phthisis	29
Carlsbad water	50	Delivery of an after-coming head ...	224
Catarrhal jaundice	51	Diabetes	64
Catgut suture, Continuous	215	—, Climacteric	212
Catheter, Aseptic	173, 201	Diarrhea	54
Cantery, Actual, in diphtheria ...	107	— in children	53
Cephalocele, Linear compression in ...	164	—, Nitrate of silver in	96
Chloroform as a hæmstatic	115	—, Perchloride of mercury in ...	96
Cholagogues	51	—, Salicylate of iron in	96
Cholecystotomy	116	—, Summer	54
—, infantile, Coca preparations in ...	97	Diet, Effect of albuminous, in typhoid fever	106
Cholera, Transfusion of serum in ...	55	Digestion, Influence of hot drinks on ...	50
Chorea, Arsenic in	42	Digestive ferments	50
—, Subcutaneous injections of arsenic in	99	Digitalis in pneumonia	26
Chronic acid as a caustic in nasal disease	283	Dilatation of stomach	48
Chronic urticaria, Bromo-hydrate of quinine in	240	Diphtheria, Acetic acid in	108
Chrysophanic acid in skin-diseases ...	246	—, Actual cautery in	107
Circumcision under cocaine	158	—, Antiseptic fumigations in ...	108
Clergyman's sore throat	229	—, Apomorphia in	108
Club foot	149	—, Bromine and iodine in	106
—, Subcutaneous division of ligament in	150	—, Helenine in	99
Coca, Infusion of, in throat affections	275	—, Intubation of larynx in	109
— in infantile cholera	97	—, Iron in	98
Cocaine	276, 291	—, Mercuric bismide in	108
—, Circumcision of a child under ...	158	—, Papaine in	107
—, Corrosive sublimate and chlorine water, relative disinfecting power of	254	—, Peroxide of hydrogen in ...	107
—, Dangers of	99, 277	—, Substitute for tracheotomy in ...	164
—, Diuretic action of	67	Dislocation of clavicle	140
—, Hypodermic injection in asthma and nervous cough	276	— of head of radius in children ...	157
— in angina pectoris	7	— of hip, Congenital	151
— in ear-ache	271	— of scapula	139
— in eye-diseases	252	Drainage, Permanent, in ascites ...	57
— in herpes zoster	240	Dry dressings for wounds	114
— in parturition	217	Dysentery	95
— in pertussis	99	—, Intestinal irrigation in	95
— in urethral dilatation	199	Dyspepsia	46, 47
— in vomiting of pregnancy	217	—, Acid	47
— in whooping-cough	278	—, Acids in	46
—, Isolation of temperature sense by	276	—, Intestinal irrigation in	95
—, Salicylate of, in asthma	19	—, Nervous	47
—, salve in erysipelas	239	Ear-ache, Cocaine in	271
—, Some hitherto unrecognised ad- vantages of	251	— disease, Absolute alcohol in ...	272
— spray causing spasm of glottis ...	276	—, Gymnastic treatment in ...	272
—, Substitutes for	277	—, Lucas's pressure probe in ...	272
Coccyx, Excision of	136	Eczema of the anus and surrounding parts	240
Cold, Local application of, in fevers ...	102	— marginatum	243
Cold-air inhalations in typhoid fever	105	— of the scalp	241
Condurango-wine in stomach affec- tions	49	Elbow, Sprains of	140
Condylomata, Resorcine for	183	Electricity in fevers	103
		— in gynecology	213
		— in ocular therapeutics	265
		— in sciatica	76
		—, Professor Erb's Handbook of ...	35
		— with chloroform in neuralgia ...	35
		Electrisation of the heart	8
		Electrolysis for stricture of urethra ...	170
		Elimination of drugs by milk	236
		Empyema	52, 53

	PAGE
Empyema in children	33
Endocarditis	1
Enemata of carbolic acid in typhoid fever	106
— in typhus fever	106
Epilepsy, Peroxide of hydrogen in	43
Ergot in dysentery	55
Erysipelas, Carbolic acid in	239
—, — acid and turpentine oil in	239
—, — oil in	239
—, Cocaine salve in	239
—, Scarification in	239
—, White zinc paint in	240
Erythema, Iodide of potassium in	241
Ethyl-iodide in throat-disease	275
Excision of knee	136
Exophthalmic goitre	13
— cured by cauterisation of the nose	283
Exostosis in ear, Removal of	270
Eye, Hygiene of the	263
Fallopian tube gestation, ruptured, Abdominal section for	205
Faradism in the incontinence of children	101
Feeding by rectum	55
— tube	55
— of infants	237
Fever, Treatment of, by acids	103
—, —, by antifebrine	102, 111
—, —, by antipyrine	110
—, —, by electricity	103
—, —, by hydrochinon	111
—, —, by ice to precordium	102
—, —, by kairine	111
—, —, by resorcine	111
—, —, by thalline	111
Fibroid polypus removed by abdominal section	195
Fibro-myomata, Treatment of	195
Filtering paper as a dressing for wounds	114
Fistula, Treatment of	136
Flat-foot, Boot for	148
—, Exercises in	148
—, Ogston's operation for	147
—, Tip-toe exercises in	148
—, Treatment of	147
Fœtal membranes, Extrusion of	224
Fœtus, Death of	223
Follicular sore throat	278
Forceps in midwifery	225
Fracture of clavicle, Colles's	139
—, Un-united	140
— of femur	140
Gall-bladder, Operation on	131
Galvanism in Graves's disease	14
Gastralgia	48
Gastric catarrh, Chronic	48
— ulcer	49
Gastritis, Chronic	48
Goitre, Exophthalmic	13
Gonorrhœa, Grooved bougies in	184
— in women	207, 211
Gonorrhœal rheumatism	73
Gout	77
Gouty regimen	77

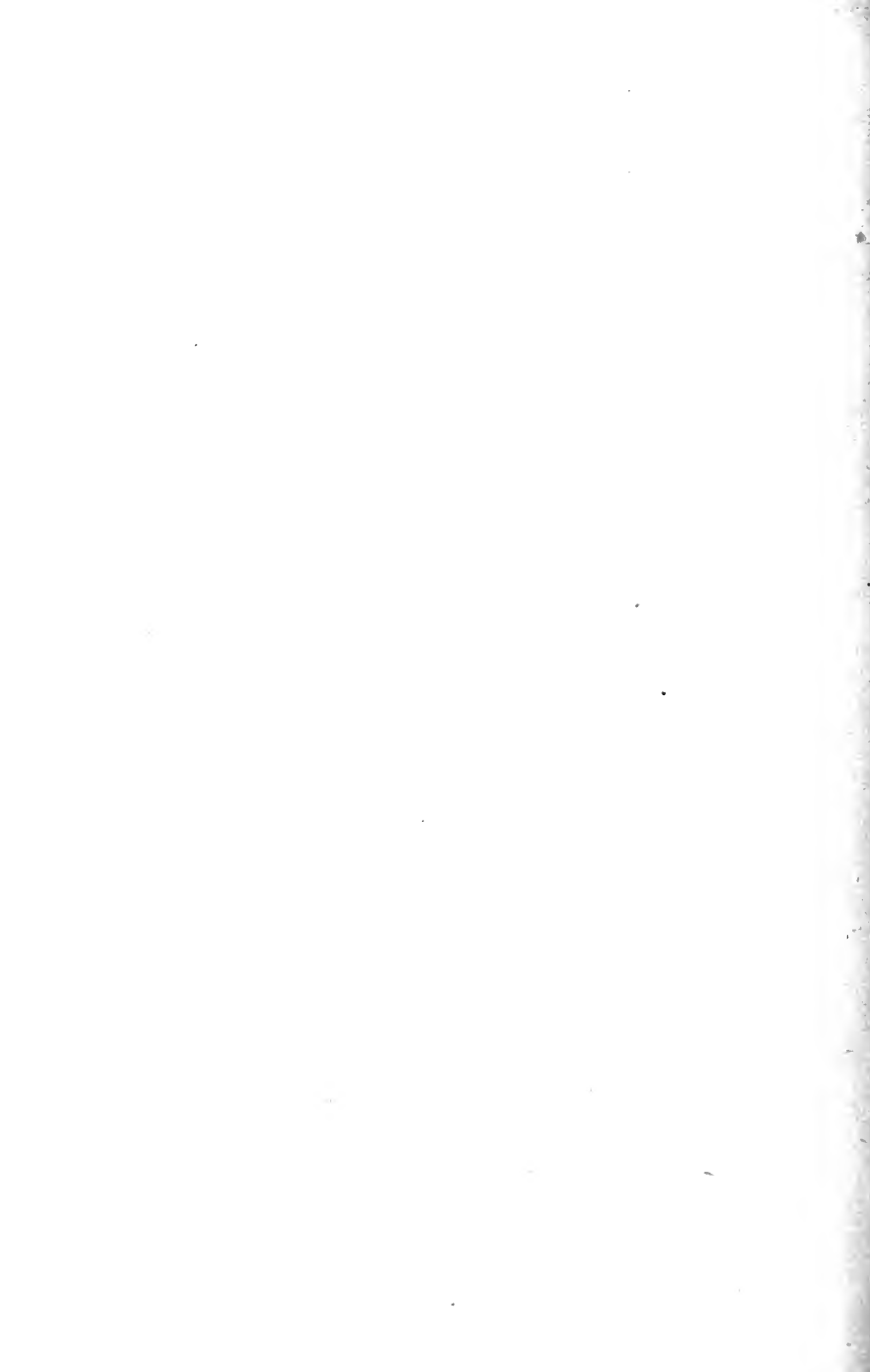
	PAGE
Graves's disease cured by galvanism	14
Gymnastic treatment in ear-disease	272
Gynecology, Mooted points in	197
Hæmatoma in new-born infants	238
Hæmaturia	68
Hæmoglobinuria	68
Hæmoptysis	22
Hæmorrhage, Arrest of	114
Head-ache, Antipyrine in	43
— in childhood, Ergot in	160
Heart, Electrification of	8
— disease, Exercise and massage in	15
Hereditary syphilis	184
Hernia	135
— cerebri, Treatment of	123
—, Radical cure of	133
Herpes zoster, Cocaine in	210
Hip, Congenital dislocation of	151
— disease	137
Hip-joint abscess	162
Hodgkin's disease, Arsenic in	84
Hydatid cysts	132
Hydatids in abdomen	206
— of the lungs	33
Hydrastis canadensis	222
Hydrochinon in fevers	111
Hydrogen, Peroxide of, in nasal disease	275
Hygiene of the eye	263
Hyoscine	292
Hypnone	290
Hypnotic, Aceto-phenone as a	37
—, Caffeine as a	40
—, Ethoxy-caffeine as a	37
—, Hydro-iodate of hyoscine as a	33
—, Jamaica dogwood as a	37
Hypnotics, Paraldehyde and urethane as	37
Hypodermic injections of the double cyanide of gold and potassium in atrophy of the papilla	266
Hypophosphite of soda in tubercular inflammation	100
Hysterical vomiting	50
Incontinence of urine in children	101
Infant feeding	95, 237
—, Artificial rennet in	96
—, Peptonised milk in	95
—, Peptonising pellets in	96
Infantile cholera, Intestinal irrigation in	95
—, Coca tincture in	97
—, (see also Diarrhœa)	96
Inflation of bowel in intussusception	156
Intestinal irrigation	95
— obstruction	130
Intracapsular injection of antiseptic solutions in the extraction of cataract	259
—, of distilled water in the extraction of cataract	258
Intubation of the larynx	280
— for diphtheria	109
Intussusception	730
—, Inflation and massage in	156
Inv-rsion of uterus, Treatment of	196, 197
Iodide of potassium in erythema	240
Iodine in diphtheria	106

	PAGE		PAGE
Iodoform and nitrate of silver as a		Neuralgia, Iodoform collodion in	44
— caustic	250	—, Methyl-chloride spray in	43
— ether in chronic abscesses	115	—, Rheumatic	73
— in cold abscesses	115	Neurasthenia, Massage in	44
Iodol	288	Neurotic remedies	289
— in eye-diseases	256	Nitrate of potash in rheumatism	72
— in suppurative ear-affections	267		
— in syphilis	183	Obesity	51
Iron, Action of, in anæmia	83	Ocular therapeutics, Antiseptics in	253
—, Albuminate of	84	—, Electricity in	265
—, Subcutaneous injection of	83	Œsophagotomy	124
		Gleates, Acouitine and morphia, in	
Jaundice, Catarrhal	51	— throat-affections	275
Joints, Loose bodies in	137	Ophthalmia, Purulent, of new-born	
		children	252
Kairine	286	Ophthalmotomy in deep-seated inflam-	
— in fevers	111	— nation, of the eye	263
Keloid	242	Ossicles, Removal of	263
		Ovarian tumours	139
Laceration of cervix, Emmet's opera-		—, malignant, Treatment of	187
tion on	193		
Lanoline	293	Papaine in diphtheria	107
— in ophthalmic practice	256	Paracentesis of the membrana tympani	268
— in skin-diseases	245	Parametritis chronica circumscripta	
— in syphilis	184	et diffusa	201
Laryngeal phthisis, Lactic acid in	279	Parenchymatous keratitis	257
Laryngotomy	126	Parturition, Cocain to relieve pain in	217
Larynx, Intubation of	280	Patella, Fractures of	138
Leamington as a health resort	79	Peat powder as a dressing	259
Leukoplakia linguæ	245	Pelvic abscess	163
Lime-juice in conjunctivitis diphtheri-		— hæmatocele	204, 215
tica	253	Peptonised milk	95
Lithia, Salicylate of	72	—, Artificial rennet for	95
Litholapaxy in children	168	—, Peptonising pellets for	96
Lithotomy, Supra-pubic	158, 169	Perforative peritonitis	57
Lobelia in asthma	19	Perineum, Injury to, during labour	227
Lucæ's pressure-probe in ear-diseases	272	Periosteum, Grafting	144
Lung, Operation on the	127, 128	Periostitis, Acute, of femur	145
Lumbar nephrectomy	157	Peritonitis, Laparotomy in	130
Lupus erythematosus	244	—, Perforative	57
— vulgaris	243	Permanent drainage in ascites	57
		Peroxide of hydrogen in diphtheria	107
Massage in heart-disease	15	Pertussis, General remarks on treat-	
— in sciatica	76	ment of	94
Mastitis, Puerperal	234	—, Treatment of, by cocaine	99
Mastoid, Operations on the	270	—, by nasal insufflation	99
Meningeal hæmorrhage	123	—, by resorcine	99
Menthol, substitute for cocaine	277	Phosphaturia	69
Mercurial stomatitis	183	Phthisis, Antipyretics in	27
Mercuric biniodide in diphtheria	103	—, "Cramming" in	29
Mercury, Diuretic action of	66	—, Gaseous injections into rectum	
—, Tannate of, in syphilis	178	in	30
—, Yellow oxide of, in syphilis	182	Pigmentation	241
Migraine, Ergot in childhood	100	Pilocarpine in throat-affections	273
Milk, a vehicle for iodide of potassium	132	Pityriasis versicolor	243
—, Elimination by	236	Plantar varus	151
Mineral waters in rheumatism	78	Pleural exudations	36
Mitral disease, Caffeine in	4	Pleurisy	32
—, Convallaria in	3	Pneumonia, Digitalis in	26
— stenosis	2	— treated by intra-pulmonary injec-	
Molline in skin-diseases	246	tions	26
Myocarditis	6	Potash, Nitrate of, in rheumatism	72
Myopia	259	Powders, Abuse of, in ear-disease	272
		Pregnancy complicated by diabetes	222
Nævus	244	— in one horn of uterus	231
Naphthaline in typhoid fever	104	Prostate, Removal of	171
Neck, Operations on, &c.	126	Prostatic hypertrophy with residual	
Nephrectomy, Lumbar	157	urine	171
Nerve suture	144	Prostatotomy	171

	PAGE
Pruritus, Alkaline sitz-baths in ...	240
— vulvæ, Salicylic acid in ...	240
Pseudomyxoma peritonei ...	189, 190
Ppos's, Congenital and paralytic ...	260
Puerperal mastitis ...	234
Purulent rhinitis ...	282
Pyrexia, Antipyrine in ...	97
—, in childhood, Treatment of ...	93, 97
—, Thalline in ...	97
Pyridine in asthma ...	20
Quinine as a hæmatinic ...	84
—, Tromo-hydrate of, in chronic urticaria ...	240
—, Insufflation of, in pertussis ...	99
Radius, Partial dislocation of ...	157
Rectum, Diseases of ...	135
—, Feeding by ...	55
Reflex neuroses from nasal disease ...	283
Renal tumour, Operation for ...	157
Rennet, Artificial ...	96
— powder ...	96
Resection of intestine ...	129
Resorcine ...	285
— and ichthyol in skin affections ...	248
— for condylomata ...	183
— in fevers ...	111
Rheumatic fever ...	70
— neuralgia ...	73
Rheumatism and gout ...	70
—, Acute ...	70
—, —, Antipyrine in ...	70
—, —, Complications of ...	72
—, —, Nitrate of potash in ...	72
—, —, Salicylate of lithia in ...	72
—, —, Salol in ...	71
—, Chronic ...	75
—, Congenital ...	72
—, Gonorrhœal ...	73
—, Shoulder ...	74
Rheumatoid arthritis ...	75
Ribs, Resection of ...	127
Rickets, Phosphorus in ...	96
Ringworm, Turpentine in ...	242
Ruptured perinæum, Catgut suture in ...	226
Saccharine ...	293
Salicylic acid in pleurisy ...	289
Salicylate of lithia in rheumatism ...	72
— of caffeine and sodium, Action of ...	4
Salol ...	289
— in rheumatism ...	71
Salt as a prevention of calculous disorders ...	170
— solutions in acute anæmia ...	86
Salve pencils in skin-diseases ...	247
Saponimenta in skin-diseases ...	247
Sarcoma, abdominal, Successful removal of ...	155
Scabies ...	242
Scapula and clavicle, Amputation of ...	144
Scarification in erysipelas ...	239
Scarlatina, Cause of ...	98
Schultze's swinging movements ...	235
Sciatica ...	76
—, Electricity in ...	76
—, Massage in ...	76

	PAGE
Sclero-choroiditis, Double rheumatism of ...	261
Sclerotic, Application of sutures in wounds of the ...	254
Scopoleine ...	294
Senega, Substitute for ...	292
Skin-grafting and mucous-membrane grafting ...	262
Small-pox, Sodium salicylate in ...	109
Sodium carbonate injection in diabetes ...	64
— salicylate in small-pox ...	109
Sozolic acid ...	288
Sparteine ...	293
—, Action of ...	5
Sphacelinic acid ...	248
Spina bifida ...	145
—, Excision of ...	163
Spine, Caries of ...	154
—, Corset for lateral curve of ...	152
—, Plastic cure in caries of ...	154
—, Treatment of lateral curve of ...	152
Spleen, Excision of ...	131
—, Injection of arsenic in ...	85
Stillborn children, Swinging for ...	235
Stomach, Diseases of ...	46, 47
—, Operation for removal of fork ...	119
Stomatitis, Mercurial ...	183
Stone in the bladder, Choice of operation for ...	167
Strophanthus ...	292
Sublimate in suppurate ear-affections ...	267
Sugar as a dressing for wounds ...	113
Summary of treatment of fevers ...	110
Sycosis, Oleate of copper in ...	241
Syphilis, General treatment of ...	177
—, Inunction of mercury in... ..	179
—, Iodol in ...	183
—, Mercury in ...	178
—, Preventive treatment of ...	180
—, Sarsaparilla in ...	178
—, Subcutaneous injection in ...	180, 181
—, Tannate of mercury in ...	178
—, Urea in ...	181
—, Yellow oxide of mercury in ...	182
Syphilitic stricture of trachea	26
Talipes varus ...	149
—, Excision of ...	150
Tannate of mercury in syphilis ...	178
Tarsotomy ...	150
Tendon-grafting ...	144
Terebene in winter cough ...	22
Terpene in chronic bronchitis	22
Thalline ...	287
— in fevers ...	111
Therapeutics of the year ...	285
Thoracic aneurysm treated by introduction of steel wire ...	11
Torticollis ...	153
Trachea, Syphilitic stricture of ...	26
Trachoma, Expression of the granulations in ...	261
Transfusion of blood ...	90, 91
Trephining for cerebral abscess ...	123
Trigeminal cough	22
Tubercular inflammation, Treatment of ...	100
— ulcer of tongue	124

	PAGE		PAGE
Tumours, Arsenical treatment of	143	Urethral stricture, Treatment of, by	
— in Scarpa's triangle	143	electrolysis	170
— of brain	121	Urine, Ammoniacal	63
Turpentine in caries of the petrous		Urtica dioica as a styptic	114
bone	268	Uterine contractions not affected by	
— in fistulous ulcer	116	hydrastis canadensis	222
— in ringworm	242	Uterus, cancerous, Extirpation of	191, 192
Typhoid fever, Abortive treatment of,		—, cancerous, Statistics of vaginal	
by naphthaline	104	excision of	194
—, Albuminous diet in	106	Vagina, Injuries to, during labour	227
—, Antiseptics in	105	Varicocele, Silk ligatures for	174
—, Cold air inhalations in	105	— treated by scrotal incision, &c.	175
—, Enemata of carbolic acid in	105	Vertebrae, Early operative treatment	
—, Large doses of bismuth in	104	for inflammation of	154
—, Saline aperients in	106	Vesical calculi in children	158
—, Warm baths and quinine in	104	Vomiting, Cocaine in	217
—, Whey in	106	—, Hysterical	50
Typhoid state, Benzoic and salicylic		Warm baths in typhoid fever	104
acids in	103	Warts, Salicylic acid in	241
Typhus fever, Enemata of carbolic		Waters, Mineral, in rheumatism	78
acid in	106	Whey in typhoid fever	106
Ulcer of stomach	49	Whooping-cough, Local treatment of	278
Umbilical cord, Prolapse of	227	Wounds, Dry dressings for	114
Unna's salve-soaps in skin-diseases	246	—, Filtering paper as dressing for	114
Urea and perchloride of mercury in		—, Sugar as dressing for	113
syphilis	181	—, Treatment of	113
Ureters, Palpation of, per vaginam	222	Zinc paint in erysipelas	240
—, Suction of male	172		
Urethane	289		
— in heart-disease	7		



297181

Author

P
med.
Y

Title Year-book of treatment, 1886

DATE.

NAME OF BORROWER

University of Toronto

Biological Library

& Medical

Sciences

**DO NOT
REMOVE
THE
CARD
FROM
THIS
POCKET**

Acme Library Card Pocket

Under Pat. "Ref. Index File"

Made by LIBRARY BUREAU

